





**Vol. II**  
**TRANSCRIPT OF RECORD**

(Pages 785 to 1568)

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**Supreme Court of the United States**

**OCTOBER TERM, 1944**

**No. 56**

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**SOUTHERN PACIFIC COMPANY, APPELLANT,**

**vs.**

**STATE OF ARIZONA, EX REL. JOE CONWAY,  
ATTORNEY GENERAL OF THE STATE OF  
ARIZONA**

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**APPEAL FROM THE SUPERIOR COURT OF THE STATE OF ARIZONA,  
COUNTY OF PIMA**

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**FILED APRIL 12, 1944.**



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VOL. II

INDEX

Record from Superior Court of State of Arizona in and for  
County of Pima—Continued

Statement of evidence—Continued

Defendant's case—Continued

Peter-Parke—Continued

	Original	Print
Direct .....	1431	805
Cross .....	1459	820
Redirect .....	1463	822

J. B. Baker—

Direct .....	1466	824
	1491	837
Cross .....	1518	851
Redirect .....	1525	855

L. J. Masson—

Direct .....	1528	856
	1909	1057
	2149	1185
Cross .....	2299	1264
Redirect .....	3177	1726

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Record from Superior Court of State of Arizona in and for  
County of Pima—Continued

Statement of evidence—Continued

Defendant's case—Continued

	Original	Print
Frank D. Beale—		
Direct	1543	864
	1639	914
Cross	1643	917
Redirect	1650	920
Locke S. Wilbur—		
Direct	1580	887
	1652	921
Cross	1652	921
M. C. Blanchard—		
Direct	1654	923
Cross	1707	950
Redirect	1709	951
Recross	1709	951
G. K. Thomas—		
Direct	1710	952
Cross	1729	961
Redirect	1730	962
J. F. McDonald—		
Direct	1735	965
Cross	1761	979
Loyd E. Cartmell—		
Direct	1767	982
Cross	1806	1003
Redirect	1817	1009
	1819	1010
Recross	1818	1010
	1819	1010
R. H. Weeks—		
Direct	1822	1012
J. J. Mahoney—		
Direct	1837	1020
Cross	1966	1088
Redirect	1989	1100
Recross	1992	1102
Joseph Henry Dyer—		
Direct	1993	1103
W. H. Kirkbride—		
Direct	2027	1120
Cross	2136	1178
	3861	2094
	4034	2184
Redirect	4042	2188

Record from Superior Court of State of Arizona in and for  
County of Pima.—Continued

## Statement of evidence.—Continued

## Defendant's case.—Continued.

	Original	Print
G. C. Baker—		
Direct.....	2332	1281
	2669	1455
Cross.....	2392	1312
	2727	1485
	2894	
Redirect.....	2780	1567
	2910	1583
W. P. Herbert—		
Direct.....	2395	1313
	2830	1540



A. Since February 1, 1914.

Q. Where did you receive your academic training?

A. After receiving technical education in my native country, Sweden—

Q. Then you came to this country?

A. I came to this country and started in with the Pullman Company in the drafting room as a draftsman.

Q. Will you give briefly your experience in your chosen [fol. 1393] profession since you started with the Pullman Company. What year was that?

A. October, 1890, to 1898, draftsman with the Pullman Company; from 1898 to 1900, mechanical engineer with the Illinois Car and Equipment Company. The Illinois Car and Equipment Company operated plants in Chicago; Urbana, Ohio, Anniston, Alabama; I was at the Anniston plant. That plant was later taken over and the company went out of business and it was operated by the Southern Car and Foundry Company. From 1900 to 1905, I was assistant master car builder of Swift Refrigerator Lines.

Q. That was the Swift Packing Company?

A. Yes, Swift and Company. The master car builder was manager down at Anniston and when he left I went with him up there. From 1905 to February, 1914, I was with Western Steel Car and Foundry Company in various positions from mechanical engineer to manager of their works at Chicago.

Q. In what business generally was the Western Car and Foundry Company engaged?

A. Western Steel Car and Foundry Company was an affiliated company with the Pressed Steel Car Company and they were engaged primarily in building steel freight cars, the company being controlled by the Pressed Steel Car [fol. 1394] Company. There were periods when I spent months, several months at a time in their plant at Pittsburgh when the local plant in Chicago was down. The plant was never continuously operated.

Q. Since your incumbency of the office of the official position as chief engineer of the Pullman Company what in general have been your duties as chief engineer?

A. As chief engineer I have complete charge of designing and all mechanical matters pertaining to the construction of Pullman cars, preparing specifications, preparing designs, requisitioning material, and also taking care of



having in charge the mechanical construction for maintenance carried out by our repair shops. From 1914 to 1924 the Pullman industry was operated as one corporation. The company then had a manufacturing department of the company. As chief engineer at that time I had charge of both the specifications and all mechanical features of building and constructing the cars. After the complete separation of the manufacturing company from the operating company the Pullman Company is now a subsidiary to Pullman, Incorporated. Pullman, Incorporated, owns the manufacturing company and the Pullman Company. From the time of this separation I am chief [fol. 1395] engineer for the Pullman Company and have nothing to do directly with the manufacturing company. As chief engineer for the Pullman Company my duties are as before, preparing specifications and supervising the construction of new equipment purchased by the Pullman Company from the manufacturing company or, in other words, my position now relative to the manufacturing company is about the same as a railroad mechanical officer to the manufacturing company.

Q. You prepare the specifications?

A. I prepare the specifications and control the design and all features.

Q. And inspect the cars?

A. To inspect the cars, I have directly under my supervision inspectors who inspect the cars and see that they comply with our specifications.

Q. Has your office a record of the design and specifications of Pullman cars as far back as 1900?

A. No, the records for all Pullman cars are maintained primarily in the organization which maintains or has charge of repairs. They maintain the complete record history of every car, also there is a record which we rely on completely now in the office of our engineer of valuation. The engineer of valuation is an office designated after the [fol. 1396] separation of the company in accordance with the Interstate Commerce Commission's requirements. He has a complete record of every car and to his office goes all the information about changes which take place in the cars and in that way he keeps control of the value of the car, the depreciation, etc.

Q. You have access to those records?

A. We have access to all records of the company, yes, sir. We have, of course, specifications for all lots of cars built. We may give an order for small or large numbers of cars to the manufacturing company and for every lot of cars we have the specifications. Those specifications are kept for many years, they are usually for old lots stored out in the water tower and when we come to search for the old records they are not there, but the engineer of valuation has a complete history.

Q. Mr. Parke, there has been handed to the clerk a sheet headed, "The Pullman Company, Chronology of Advances in Sleeping Car Construction, Years 1900 to 1940." Have you that before you?

A. Yes, I have.

Mr. Booth: We ask that this be marked "Defendant's Exhibit No. 107" for identification.

[fol. 1397] The Court: It may be marked.

The Clerk: Defendant's exhibit No. 707 for identification.

Mr. Booth:

Q. Was this exhibit prepared under your direction?

A. This was prepared in my office under my direction.

Q. Taking the first block on the exhibit to the black line in the center of the exhibit, years 1900, 1901, 1902, and 1903 is the designation, does that correctly show the side elevation of the Pullman cars in general used in those years?

A. Not necessarily. It is a typical view of it. The oval windows, for example, on some lots we have oval windows and on others something else. It is typical. All cars constructed in that year were constructed under specifications and minor modifications made in the building of those cars. In three years someone gets an idea it would be better to have an obscure window for the toilet and that is recommended and it is put there but in general it represents the type of car, I would say aside from those oval windows, represents the type of car that was built during those years and the descriptive matter shown to the right-hand side is typical of those cars.

[fol. 1398] Q. Those are the new features which were added in those years?

A. I would say that those are the features that existed in the cars built during those years, not necessarily added in those years. Some of them may be carried over from

a way back, I know many of them were but they describe the car as of that period. From 1900 to 1903 the cars included the features shown in that statement.

Q. The length over platforms coupled, the average weight of the car and trucks, and the average weight of one truck is shown in the column so headed, is it?

A. That is right. Those weights are fairly representative. There is no two cars that weigh exactly alike, one may weigh 120,000 and the other will weigh 121,000 and the other 119,000, all exactly the same construction. There is enough variation in the material that enter into it to account for the slight difference, but that is typically representative of the weights of the cars for that period.

Q. Taking the Pullman car in the block for 1904, what does that represent?

A. That represents substantially the same cars with the slight difference mentioned in the centering device for the [fol. 1399] coupler to improve the centering and means a slight change in the brake rigging and a slight change in the truck and also a change in the brake beam, really immaterial changes.

Q. And in 1907?

A. In 1906 I think is the next.

Q. Yes.

A. 1906 there is a decided improvement. It is in the draft gear. The Westinghouse friction draft gear was applied to those cars and instead of having the plate transoms or body bolsters, we call them either, that means the cradle which supports the car, was constructed of steel plates. Instead of that a large steel casting was substituted which made a more solid and substantial construction and another very important improvement was in the substituting of the L.N. brake for the P.M. brake. That was substituted on cars built that year.

Q. Has that brake been applied since or has there been a still further improvement?

A. There has been further improvement in the brakes.

Q. We will come to them later, will we?

A. I could mention the difference in the L.N. as against the P. M. It shows as a matter of fact on the bottom of [fol. 1400] the exhibit under the head of "Brake Schedules." It shows the difference, the P.M. brake which we had previously to L.N., the braking pressure was lower than the L.N. and it was lower because of a safety valve

in the brake cylinder which released the pressure after the heavy brake application was made so that the pressure gradually reduced. It was found desirable by the brake company, we as car builders have nothing to do with brakes except we put them on and follow along with all improvements we find desirable, it was desirable to maintain the higher emergency brake pressure to the end of the stop and for that reason the L.N. brake was designed. It gave the higher brake pressure and maintained it. It maintained it by short-circuiting the release valve on the emergency brake application.

Q. That L.N. brake made its appearance in cars that were built in 1906?

A. That made its appearance in cars built in 1906.

Q. What improvements, if any, were made in cars built in 1907?

A. In 1907 there weren't many changes. The reference here is first experimental car built was the first steel car [fol. 1401] constructed at Pullman car works. It was built for the Jamestown Exposition, that is the car described here. There was very little change in the other cars, that is, in the standard cars.

Q. Coming down to the block of 1910, 1911, 1912, 1913, and 1915, will you describe that?

A. That was the most revolutionary development in car construction. It changed entirely the practice of building cars. Previous to 1910, all cars built were of wood construction. In 1910, after the preliminary experience with one car built in 1907, the Pullman Company started to build steel cars and with the steel cars there were introduced several other improvements. There was a new coupler, a vapor heat in place of Safety Company heat. That former heat was hot water heated with steam, a water heater on each car, heated with steam.

Q. What was substituted for that?

A. Vapor Company, that is a system of heating cars which prevents pressure steam from entering the car. It is reduced to atmospheric pressure as it enters the car, as a safety measure to avoid scalding in cases of breakage in any of the steam lines. The car was of entirely new construction all the way through, including steel interior [fol. 1402] which had never up to that date been manufactured. That development was prompted primarily by the Pennsylvania Tunnel into New York, making it obliga-

tory to have fireproof cars to go through the tunnel, and so at that time the Pullman Company had to change their cabinet makers into workers in steel. The wood cabinet workers were the only ones who could make good steel interior finish. After the first steel car built there was another factor entering into the picture and that was the promulgation of the Railway Mail Service specification requirements for railway postal cars.

[fol. 1403] Mr. Booth: May I interrupt there just a moment. Those were mentioned in Mr. Leriche's testimony, and before we conclude our case we will furnish a copy here either as an exhibit or for identification, and either party can use such portions as they desire. I won't ask the witness to attempt to testify to what those specifications were, except in a most general way. We will undertake to furnish a copy of it.

The Witness: Previous to 1912, every car builder used his own notion as to what constituted a safe car. The Railway Mail Service, in preparing specifications for steel cars previously—they had nothing but wood cars—requested railroads and car builders to get together and work out a safe car for the protection of the train crew, and the result was the Railway Mail Service specification. That specification carried with it a minimum requirement of strength of underframe, strength of side frame, strength of roof, strength of ends. The first Pullman steel cars built in 1910 were not quite strong enough in the end to meet that end requirement, so later they were redesigned and reinforced at the end to meet the buffing requirements for end posts. The changes aside from that in that group [fol. 1404] from 1910 to 1915, is that P.C. brake was introduced. The P.C. brake was introduced practically exclusively for the New York Central operation. They were not entirely satisfied with the L.N., and the only deficiency they found in the L.N. was that an emergency brake application couldn't be made immediately after a service application. In other words, with the L.N. brake, when it was applied it depleted the supply of air in the reservoir, and if you should immediately afterwards want to make an emergency application, you couldn't do it. It was also more quick acting and the entire brake mechanism, the entire brake valve mechanism, was completely redesigned, but unfortunately the P.C. brake was rather



rushed through and is probably not as satisfactory as the former L.N. It was never universally used. We used it on all Pullman cars in service on the New York Central, but to the best of my knowledge no other road used the P.C. because it was in the development stages and the air brake company was forced to put something in the market, which later on developed into the U.C. The U.C. was not applied or brought out until 1916. It took a long time to develop that, but the U.C. brake was a perfected brake. The rest of the items in the group 1910 to 1915 says, "steel U-beam construction." That was a [fol. 1405] means of strengthening the end to meet the Mail Service requirements.

Q. Will you describe the improvements on cars in the next block?

A. The next block,—really the 1915 should come in the next block too—built-up structures, steel platforms, and bolsters. In 1915, under my direction, we redesigned the entire steel structure. We were not satisfied with the original development, and we redesigned not only the underframe, but the entire structure, and in place of the interlocking siding, steel siding, we had on the first cars, the cars were built to look as much like wood cars as possible, because they were operated with wood cars, and in order to make them look like wood cars we put in interlocking steel sheathing, which was just a nuisance because it rusted out too rapidly, and we eliminated that and put in instead a more substantial steel plate siding, and that was the radical departure in 1916, when we placed those cars in service. Also, we introduced in 1917, under my direction, clasp brakes and improvements in brakes.

Q. Will you describe the difference between the application and function of a clasp brake as distinguished from the brakes previously in use?

A. There is no difference in function nor in its application [fol. 1406] tion, it is just in the mechanical construction. The brake previously used consisted of only one brake shoe per wheel. The objection to that was that it put too great a lateral thrust on the wheel when the brake was applied, which was not entirely satisfactory for the proper alignment of the bearing. On clasp brakes there are two brake shoes, one on each side, exerting opposite and equal force on the wheel so as to eliminate any dis-

tortion thrust on the bearings.<sup>3</sup> But the primary purpose of applying clasp brakes was to have a larger amount of brake-shoe metal in case of long-continued brake application. There is more metal to absorb the work of braking and, therefore, the brake-shoe will not be heated to such an extent as it would be if half the material, half the amount of metal, had to absorb the heat of the retarding forces, so the two brake-shoes are really a safety measure in a way, and more so than a mechanical measure. You get more life out of the shoe by not heating it too much, because it doesn't last long when it is heated to the degree to which it would be heated with the heavy cars on a triple brake truck. So far as stopping a car is concerned, it has no particular effect because you can stop a car in just as short a distance with a triple brake as [fol. 1407] you can with the clasp brake.

Q. What about the improvements in 1920 and 1921 in this bottom block in the first column? Did you mention those?

A. They are important. In 1920, the coupler companies got together and decided that a larger coupler knuckle should be used, and a stronger coupler, and they put in the market what is known as a "D" coupler, and, as usual, when anything in the line of an improved device is available, we started to apply it immediately. In that connection also, we changed the draft gear. That in itself doesn't mean much, we changed that for economic reasons, although the new gear cost more than the old. The old draft gear which we had in service since 1906 was also a friction draft gear, but it was very difficult to maintain on account of its construction, wedge-shaped friction surfaces which were hard to match. The new draft gear applied in 1920 was of a flat plate type, which could easily be maintained in good condition, so that that was an improvement in 1920 and '21, quite an improvement, in draft attachment.

Q. I notice, by the way, in this first column that the length of the types of cars shown in that column increased [fol. 1408] from 78 feet 10 inches to 81 feet 11¼ inches, and the average weight of the car and trucks increased from about 120,000 pounds to 159,000 pounds. What was responsible for the principal part of the increase in weight?

A. Its constant addition to take care of safety, when you are applying heavier underframes, heavier draft sills,



heavier draft gears, heavier couplers, it all adds to the weight. The reason for increase in length is primarily the increasing service demand, the traffic people always figuring "Can't we get a little more salable space in a car." The increase in weight is entirely due to strengthening and improving the underframe.

Q. Turn to the second column, consider the second column beginning with the new features in the years 1923, 1927 and 1929, and describe those, please.

A. The new features in 1929 have no effect on the safety of operation; it is simply an increased length of the car.

Q. What about the one in 1923 and 1927?

A. In 1927 we changed the truck in order to get more working space for the clasp brake; with the double brake beams on the old trucks we didn't have enough working space. We tried a new draft gear because we wanted to [fol. 1409] avoid the sticking and the shock that is experienced in friction draft gear, so we applied Waugh draft gear, which is more of a friction plate type draft gear.

Q. I notice in 1927 you say "Two-inch steam train line metal connections."

A. That is a very important feature. As the train operated and gradually increased in length, it became increasingly difficult to get steam through the train line because of the weakness of the steam hose connection between two cars, so we decided to put in metal steam connectors between the cars, which would permit you to carry the full boiler pressure through the train line, and in that way there is no difficulty in heating cars. That is a very decided improvement.

Q. As to 1933 and 1934, what have you to say as to the improvements in the device built during those years?

A. We entered a new picture, almost as revolutionary as the picture in 1910, when we changed from wood to steel. Now we are changing from ordinary conventional cars, which employed conventional steel, open-hearth steel, to high tensile steel, or alloy aluminum, and we are building no more heavy weight cars, no more old-style cars have been built since those years. Every car we build [fol. 1410] now is of so-called light-weight type and of alloy steel or alloy aluminum.

Q. According to this exhibit, the 1927 car weighed 170,000 pounds, and the 1933 car 119,700 pounds.

A. Yes, sir; that is entirely due to a change in material. While this work of car building was going on, the steel industry and the metal industry as a whole developed material which was not available in earlier years, and it was not until 1933 that all those new materials were available, so that we couldn't build the type of light weight car we build today prior to 1933, because there was no such material available. One reason also for the big increase in the weight of the older cars was the air-conditioning, which we started to apply in 1927. That added tremendously to the weight of the car. As a matter of fact, the 170,000 pounds may be a fair average for the cars, but we have cars which weigh much more than that; due to the heavy air-conditioning. Air-conditioning systems as applied to Pullman cars are of several types. We have one of our own, but certain roads have required different types, and for cars assigned to their service we may apply that. It may be steam air-conditioning system, [fol. 1411] or it may be electro-mechanical, mechanical or ice system, but that accounts for the high weight. The low weight in new cars is entirely due to using material which has superior strength value. All those light weight cars are designed to be more than equal in strength to the old heavy weight car, which is accomplished by the use of these light alloy metals I am speaking of.

Q. As to the cars shown in the bottom four blocks, second column, those are all light weight cars?

A. They are all light weight cars, and are of various types. The first block, articulated cars, represents a type which when we first started to build cars we thought would be desirable. We since abandoned that idea, and I question whether we ever will build any more articulated cars. The other type represents, one in 1937, that is a steel car built entirely of Cor-Ten steel. The second car is built to suit the requirements of certain roads which purchased Budd equipment and want to maintain the corrugated siding, and they are built of Cor-Ten steel with stainless steel corrugated sides.

Q. That is 1938?

A. 1938 car, the last car is typical of the cars we are [fol. 1412] building today, and the cars we are building today are far stronger than anything required by the Mail Service specifications, because the American Railway Association appointed a committee, of which I was a member,

to draft a specification for cars as an American Railway Association specification, to which all new cars should conform. That specification was issued in 1939, and all cars, passenger cars now and hereafter built will be built to that specification. The principal difference in that specification from the Mail Service is that it has much increased strength against telescoping.

[fol. 1413] Q. Since what time have all Pullman cars built by or for your company conformed to the railway mail specifications you mentioned?

A. The minute railway mail specification was issued and became official, we built cars to that specification, using that specification as the minimum requirement until the new specification, the A. A. R., in 1939 was issued.

The Court: Mr. Parke, what was the particular weakness of the articulated units shown here in 1936?

A. There was no weakness. The reason for going away from it is the interchange of cars. It is difficult to interchange; it is not desirable for that reason. With the individual car, you can shorten a train or lengthen it to your heart's content. You cannot do that with articulated units. That was the only reason. Otherwise, there is probably some advantage, but the advantage is not apparent; we came to the conclusion there is no advantage in it.

The Court: The disadvantages outweighed the advantages, in other words.

A. That is correct.

Mr. Booth: Referring to the brake schedules at the bottom of this exhibit, at what time, or approximately what [fol. 1414] time did you cease using P. M. on new cars?

A. When the L. N. brake was marketed in 1906.

Q. I believe you said you use the P. C. brake only on cars that the New York Central operated?

A. That is right.

Q. At what time did you, if you ever did, abandon the use of the L. N. type brake?

A. As soon as the U. C. brake was marketed. That was in 1916.

Q. And has the H. S. C. brake superseded the U. C., or do you still use the U. C. on some of your cars?

A. We are using the H. S. C. brake on all light-weight cars, but we are not using them as an electro-pneumatic

brake. I will explain that this way: The U. C. brake when first marketed was intended to be an electro-pneumatic brake; the difference with electro-pneumatic and straight pneumatic brake, it acts instantaneously on every car in the train, but the U. C. brake proved to be so effective and acts so quickly that the complication of electric control didn't seem to be advisable, and electric control was never applied to the U. C. brakes. It probably takes twelve to thirteen seconds for the brake to apply on the longest train, and [fol. 1415] that seemed to be so effective that the electric brake was not applied.

Q. You say "on the longest train." What number of cars do you refer to?

A. What I consider the longest train, what we know as the longest train, about 21 or 22 cars.

Q. Does this brake apply successively car by car, or instantaneously on all cars?

A. Theoretically, it must be applied successively, but the time lag is so little there is only twelve or thirteen seconds from the front to the rear car, it is close to instantaneously. It is applied by the release of the brake pressure, and each car releases the brake pressure locally. Now, the H. C., that is high-speed control brake we use, doesn't have electro-pneumatic operation. On all the light-weight cars we have built we haven't applied the electric feature, but the brake is arranged so that the electric feature can be applied any time it should be desired for very high-speed braking. We have some few cars on one line equipped with the electro-pneumatic feature, and we are building two more trains now which will have the electro-pneumatic feature. That brake is new and it is more or less in the development stage, but the idea is to use very high braking power percentages [fol. 1416] in these high speed trains. So long as you are operating trains at sixty miles per hour, the braking was not a difficult problem. When you begin operating cars one hundred miles per hour, the braking problem is quite different, and it is contemplated to apply to high speed trains that operate at one hundred miles at least two hundred and fifty per cent braking power. Then, in that connection, there will have to be an unloading of the braking power as the speed decreases, and complicated devices have been tried out to that end. We have cars which are controlled from the head end, but that is not satisfactory for the same

reason that articulation is not satisfactory. In the two trains that we are constructing for service in the City of Los Angeles and City of San Francisco, we will have independent retardation control on each car operated from the car axle so that the two hundred and fifty per cent braking power will be automatically unloaded as the train speed decreased.

Mr. Booth: May we suspend.

Mr. Strauss: I wondered, Mr. Booth, this exhibit is not in evidence.

The Court: No, it is not.

Mr. Booth: In intended to offer it in evidence. I may [fol. 1417] have some further questions on it. I ask that it be admitted.

Mr. Strauss: My only objection to this exhibit is that it is irrelevant and immaterial. I am not objecting on the ground that the records are not here.

The Court: The objection is overruled and the exhibit may be admitted in evidence.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 107.")

The Court: We will take our recess until tomorrow morning at ten o'clock.

(Thereupon, the court stood at recess until December 12, 1940, at ten o'clock, A. M.)

[fol. 1418] December 12, 1940, ten o'clock A. M.

All parties being represented as heretofore noted, proceedings were resumed at this time as follows:

PETER PARKE was recalled to the stand and testified further as follows:

Direct Examination (Continued).

By Mr. Booth:

Q. Mr. Parke, in going over your exhibit 107, I neglected to ask you regarding the improvement in wheels. What was the type of wheel in use on Pullman cars as of January first, 1912?



A. The wheel used at that time was a steel-tired wheel, had a separate hub and two web plates connecting the hub to the tire. The improvement consisted in changing a forged type of solid steel wheel, for the reason that in the operation the steel-tired wheel at times developed fracture through the bolt holes connecting the tire to the web plates, and there was always a liability of a cracked tire. Another reason, frankly, was one of economy, but the primary reason was to get away from the split tire, the solid wheel having proved itself after a considerable test period to be much more reliable and safer to operate at [fol. 1419] the higher speeds.

Mr. Booth: Your Honor, we can dispose of some witnesses who are anxious to get away on the train, if I may be permitted to withdraw Mr. Parke temporarily.

The Court: Yes.

Mr. Strouss: There are two witnesses who may be released without calling them back, Mr. White and Mr. Gareiss.

The Court: The record may show that both Mr. White and Mr. Gareiss are released from further attendance upon the court, and permitted to take with them their records.

(The witness Peter Parke was temporarily withdrawn from the stand.)

C. D. PECKENPAUGH was recalled to the stand, and testified further as follows:

Cross-examination.

By Mr. Strouss:

Q. Mr. Peckenpauqh, yesterday, in testifying concerning your freight divisions, the points where you change freight crews, you stated those were spaced about every one hundred or one hundred fifty miles apart; is that correct?

[fol. 1420] A. That is approximately correct. I said we tried to space our terminals a minimum of 100 miles, but in some cases the area covered a distance of 150 miles.

Q. This 100-mile minimum day is a minimum and not a maximum?

A. Yes, sir, that is right.

Q: Your passenger-train exhibit, defendant's exhibit No. 101—

The Court: Before you go on with that, Mr. Strouss, let me see if I understand that last statement. Do I understand, if a train crew operates as far as a hundred miles a day, even though it might take them only a very few hours, and there is nothing else for them to do, you would have to pay them for a full day?

A. That is correct.

Mr. Strouss: What I asked was, whether that is a maximum.

The Court: You said a minimum.

Mr. Strouss: A minimum day, they are paid on a hundred-mile basis for a day.

A. Yes, they have a minimum day of one hundred miles, or eight hours. If they run 150 miles and run it in five hours, they are paid for 150 miles. If they run 100 miles [fol. 1421] in twelve hours they are paid for 100 miles and penalty overtime beyond eight hours. If a crew ran 100 miles and worked twelve hours, they would be paid for 100 miles and six hours overtime, which would be four hours at time and one half, which would be the equivalent of six hours overtime.

Q. The point I was trying to make was that the length of running your engines is not restricted by any maximum miles that a train crew will run?

A. Do you mean, Mr. Strouss, engines or crews?

Q. Crews. There isn't any maximum number of miles you might run a train crew except in so far as the hours is concerned under the Federal statutes?

A. Yes, there is.

The Court: You mean by contract with your employees?

A. That is right. There is a limit to the maximum. The train crews are restricted to operating between certain terminals over which they have seniority rights. In other words, you may not run a train crew through and beyond a terminal without the beginning of a new day and a new payment.

Q. Of course, that doesn't prohibit you from combining distance?



[fol. 1422] The Court: You mean by eliminating certain division points?

Mr. Strouss: Yes. That is, you have certain divisions or districts, where the trainmen have priority you might combine those to include in one the two districts; you would have to make a new agreement with the men with regard to seniority or something of that sort?

A. Yes, that would be the influencing factor, the question of a new agreement. We may not run crews off their seniority district without the beginning of a new day or new payment.

Q. That is a matter of contract?

A. That is right.

Q. Of course, where there has been a consolidation, two divisions might be combined, then it is a matter of the working out of the seniority as between the rights on the two districts or divisions?

A. No, that is not correct. The consolidation of two divisions doesn't involve the rights or the seniority territory of the train service employee. We have consolidated a good many divisions in recent years in attempting to economize in our transportation costs, but in such consolidations each organization retains its seniority district, and the [fol. 1423] operation of trains under a consolidated division under one superintendent is identical with what it may have been under two superintendents.

Q. That is by reason of a new contract?

A. It is by reason of the existing contract. The consolidation of superintendents' divisions doesn't involve any change in labor contracts.

The Court: Mr. Peckenpough, is your freight division and your passenger division identical?

A. No, sir, not in all cases. In some cases, but not in all cases. For example, in my territory, on the Texas lines, we operate passenger cars between Dallas and Childers, Texas, a distance of 255 miles. Our freight crews run between Ft. Worth and Wichita Falls, 114 miles, Wichita Falls to Childers, 106 miles. Now, in the territory in the third and fourth districts, on the same Ft. Worth and Denver Railroad, the passenger crews run between Childers and Texline, Texas, a distance of 231 miles, while the freight crews run between Childers and Amarillo, 112

miles, and between Amarillo and Texline, 117 miles, so our freight divisions are regulated, as nearly as it is practicable, on the basis of a minimum of 100 miles. Our passenger [fol. 1424] runs often extend 200 or more miles.

The Court: Well, now, the passenger run of 200 miles, we will say, if operating conditions were normal you wouldn't be paying more than an eight hour day's work on that run?

A. A passenger day is predicated on a minimum of 150 miles instead of the freight day of 100 miles. Necessarily, we attempt to regulate our passenger mileage district 150 or more miles to avoid bonus payment, and also to avoid changing conductors too often and picking up and handling transportation too often.

The Court: Go ahead.

[fol. 1425] Mr. Strouss: Coming to exhibit No. 101, what are the head-end cars on the trains shown?

A. The Denver Zephyr handles three head-end cars. Similarly No. 1 westbound handles identical equipment, that is a streamlined articulated train. No. 40 eastbound, train No. 39 westbound have two to four head-end cars. No. 2 from Denver which consolidates at Omaha with No. 8 and runs east of Omaha as No. 8 has three to five head-end cars eastbound, including dead-head return equipment and No. 8 from Omaha will have as many as seven or eight head-end cars, being the fast mail train eastbound picking up mail from the Union-Pacific connection at the U. P. transfer which is the mail interchange point between the east and west lines located between Council Bluffs and Omaha. No. 44 and No. 50 from the northwest coast through St. Paul carry three head-end cars. No. 49 and 51 westbound carry similar equipment. No. 3, the Overland Limited from Omaha to Denver carries three to five head-end cars. No. 7, the Fast Mail, Chicago to Omaha is an exclusive mail express train and carries only a rider car. By that I mean one coach on the rear for the trainmen to use, no other passenger equipment. No. 5, Chicago to Omaha, companion train to No. 12 carries from Chicago five head-end cars [fol. 1426] of which two set out at Galesburg for Kansas City and St. Joseph.

The Court: Any further re-direct?

Mr. Mason: Have you finished?

Mr. Strouss: Yes.

Re-direct examination.

By Mr. Mason:

Q. What is the meaning of a seniority district?

A. That part or subdivision of a railroad on which train and engine service employees have right to work under their contracts.

Q. I suppose there are seniority districts for clerks and maintenance-of-way employees and so forth as well?

A. That is right.

Q. Particularly to train and engine service employees, the seniority district then defines the extent of territory in which they have the prior right to be and remain in the service?

A. That is correct. I would add this; on certain divisions train and engine service employees may have division rights. On other divisions they may have separated rights. In other words, you may have two seniority districts on one division.

[fol. 1427] Q. A division is a creation of the railroad companies for purposes of its operation and is not necessarily the same as the seniority district?

A. That is exactly correct.

Q. Is it possible for a seniority district to lap over from one operating division to another of the railroad company?

A. It is possible under agreement.

Q. If seniority districts are to be changed with the change of the extent of operating divisions, how can that be accomplished?

A. Only by negotiation and agreement.

Q. Is it necessarily the fact that seniority districts for conductors and brakemen, for example, are the same as those for engineers and firemen?

A. That does not follow.

Q. In your experience are they ever different?

A. They are.

Q. Is it possible to run a train service employee beyond the extent of his seniority district other than by agreement?

A. Yes, it may be done in emergency but you accept the penalty for doing so.

Q. What is that penalty?

A. A new day and a runaround for the crew that was entitled to the trip.

[fol. 1428] Q. By "runaround" you mean a payment of some kind?

A. That is right.

Q. What is that payment?

A. It varies. In some cases it is a minimum of  $2\frac{1}{2}$  hours, in other cases it is 5 hours, and in other cases it is a complete day.

Q. To whom is the runaround paid in the case of a man running to a point beyond his seniority district?

A. To the man who stood first out or would be entitled to the trip if you had had time to call him and make him available.

Q. Would that be somebody on the seniority district which was invaded, so to speak?

A. That is right.

Q. You spoke of a minimum day in freight service as being 100 miles or 8 hours. Suppose you have a run of 114 miles as you have stated and a through freight train crew makes the run from terminal to terminal in 5 hours, is that possible?

A. Very much so.

Q. What would be the amount of the payment expressed in hours or miles to that train crew?

A. It would be paid 114 miles.

Q. Would that be 9 hours and a fraction?

[fol. 1429]. A. Our accounting would not be on that basis. He would be paid straight mileage without overtime, 114 miles.

Q. At the rate of  $12\frac{1}{2}$  miles per hour?

A. That is right.

Q. Suppose in making that 114 miles the train crew takes 12 hours, would there be any overtime payment involved?

A. Yes, he would be paid 114 miles. Let me make a mental calculation, 114 miles on the basis of  $12\frac{1}{2}$  miles an hour is approximately 9 hours. It is a mile and a half off 9 hours. He would be paid 114 miles and 3 hours overtime at time and one-half or at three-sixteenths of the hourly rate, an equivalent of  $4\frac{1}{2}$  hours overtime.

Q. That would be in addition to the straight time payment of 9 hours and a small fraction?

A. It would be in addition to his straight time payment of 114 miles.

Q. The minimum day in passenger service I think you said is 150 miles?

A. Yes.

Q. Or 8 hours?

A. No, on the basis of 20 miles an hour.

Q. 7½ hours?

A. That is right.

[fol. 1430] Q. You are speaking now of the Burlington contract?

A. I think that is standard with most of the Class I railroads.

Mr. Strouss: Now, what he thinks and what he knows is different.

The Witness: We have standard contracts, I will confine it, however, to the Burlington.

Mr. Mason: —

Q. You have participated and negotiated in concerted negotiations, haven't you?

A. Many times.

Q. And become familiar with the contracts of other railroads?

A. That is right.

Q. What you have stated as to the Burlington contracts is true as a matter of general principle with the other contracts with which you are familiar?

Mr. Strouss: I will object to that.

The Court: Yes, I will sustain the objection to that.

Mr. Mason: I think the witness by his experience and negotiations is competent to state from his general knowledge.

The Court: No, I will sustain the objection.

Mr. Mason: I take it the objection is only to the last [fol. 1431] question?

Mr. Strouss: I am objecting to any testimony concerning agreements with any other roads than the Burlington.

Mr. Mason: The subject was introduced by counsel himself on cross-examination.



The Court: There is nothing before the court, gentlemen, proceed.

Mr. Mason: That is all.

The Court: May this witness be excused with his records?

Mr. Strauss: Yes, Your Honor.

The Court: It is so ordered.

(Witness excused.)

PETER PARKE resumed the witness stand for further direct examination:

Mr. Booth:

Q. Mr. Parke, are there any other important changes in the construction of Pullman equipment since 1912 that you have not dealt with in your testimony, and if so will you please state them briefly.

A. I cannot for the moment think of any changes of importance.

Q. You stated yesterday that the first major change was [fol. 1432] the change of the standard of construction from wood to steel. That occurred about 1912?

A. 1910, an experimental steel car was built in 1907 but the actual construction of steel cars began in 1910 and 1909 extending through those years. The cars were produced in 1910.

Q. The steel car itself has been, according to this exhibit, strengthened in construction and otherwise improved since that time, is that correct?

A. It has.

Q. What was the object of those strengthenings and improvements?

A. To meet the minimum strength requirements particularly of the end construction as covered by the Railway Mail Service Specifications which were issued in 1912.

Q. You are familiar in a general way at least with the acts of Congress relating to safety appliances and equipment on railroad cars for the protection of employees and travelers which are administered by the Interstate Commerce Commission?

A. I am.

Mr. Booth: For the record I put in the reference, they are obtained in Title 45, United States Code, Chapter 1.

[fol. 1433] Q. Has the Interstate Commerce Commission made regulations pursuant to the authority and direction of these statutes which are applicable to car construction?

A. In 1913 the Commission gave a time limit for incorporating in existing equipment all safety appliances prescribed by that act and it is obligatory for railroad operating cars in interstate traffic to comply with the requirements of that act.

Q. In the construction and repair and rebuilding of the Pullman cars has that company followed the requirements made either by or under the authority of those safety appliance acts?

A. By necessity or we would not be in position to operate the cars in interstate commerce.

Q. You have so?

A. Yes, sir.

The Court: What was that time limit?

A. It varied for different applications. It was several years—I think I have a copy of the act here.

Mr. Booth: Will you let me have your file?

A. It gives the different time limits for doing certain things.

Mr. Strouss: There were different limits for different [fol. 1434] types of appliances, were there not?

A. Yes, sir, that is what I meant. Obviously they couldn't be done instantaneously.

Mr. Booth: The witness produces an order of the Interstate Commerce Commission with the facsimile signature of Edward A. Moseley, secretary, dated March 13, 1911, in the matter of the extension of the period within which common carriers shall comply with the requirements of the act, approved April 14, 1910, as amended by the act approved March 4, 1911. We will furnish a copy of this order later and it contains the various lengths of extensions of time, the maximum of which is five years from July 1, 1911, with some minor exceptions.

Mr. Strouss: I might say I will have no objection to your putting into the record that information if you want it.

Mr. Mason: The court is entitled by decision to take judicial notice of these matters.



Mr. Strouss: I have no objection to that.

Mr. Booth: We call attention for the purpose of the record to the order of the Interstate Commerce Commission, General Order, dated March 13, 1911, which designates the number, dimensions, location, and manner of application of certain safety appliances with certain diagrams indicating those safety appliances.

Q. Referring in particular to the order I have just mentioned as containing the diagrams, has your company followed the provisions of that order?

A. We have.

Q. Has the Pullman Company itself made improvements in the specifications and design and strengthening of its cars since 1912 irrespective of the Railway Mail Specifications and the orders of the Interstate Commerce Commission act?

A. We have. We have more than exceeded the minimum strength requirements.

Q. What was the primary purpose and the effect of these improvements since 1912 that you have described?

A. The primary purpose was to permit operation with safety and comfort to passengers of longer trains at higher speed.

Q. Has that purpose been accomplished?

Mr. Strouss: I object to that; that is a conclusion, what has been accomplished.

The Court: Yes, objection sustained.

Mr. Booth:

Q. Since that time have longer trains of higher speed consisting in whole or in part of Pullman equipment been operated generally on the railroads of the United States?

A. A very decidedly longer train and at very much higher speed.

The Court: Before counsel go into the next phase of this matter, there are one or two questions the court would like to ask. What is the relationship between the Pullman Company and the operating railroads?

A. I am not of course properly qualified to give anything but my general impression. I have nothing to do with that transaction.

The Court: You have nothing to do with the operations?

A. None whatever, purely mechanical.

Mr. Booth: The Pullman Company you do know has a contract with each railroad individually?

A. I do know that.

Q. For the furnishing of Pullman cars?

A. I know that definitely that they have these contracts. I have seen them, read them, and handled them after they have been executed however.

The Court: Do I understand that the Pullman Company as such actually owns all of the so-called "Pullman" cars in operation?

A. That is correct.

The Court: Irrespective of what line it is operated [fol. 1437] over?

A. That is correct.

Mr. Booth: You do not operate them in the sense of hauling them over the road?

A. We do not.

Q. You service them by furnishing porters and terminal cleaning and so on?

A. We service them completely and in some instances like running gears or items affecting operation the railroads will perform the work for us and bill us for the expense. All interior work is handled by Pullman Company employees.

The Court: Another thing, Mr. Parke, maybe you are able to answer the question, I notice from the exhibit No. 107 that you show various types of cars going back to the year 1900. How old a car as shown on this exhibit is still in operation?

A. Today not a single wood car is in operation in any railroad in the United States.

The Court: That would mean then that the steel cars were first constructed in 1910, that the oldest car that would be in operation would be a car that had been constructed in the year 1910?

A. That is correct.

Mr. Booth: I have somewhat elaborate statistics on that subject.

[fol. 1438] The Court: I see. I think that is all, go ahead.

Mr. Booth: Neither the Pullman Company nor the Pullman Manufacturing Company nor the parent or holding company operates any railroad, does it?

A. They do not.

Q. Do any of them furnish locomotives or other power for the operation of the Pullman cars?

A. They do not, no power of any kind.

Q. Does your office have anything to do with the design of locomotives or locomotive brakes?

A. We do not.

Q. Does your office have anything to do with the design of freight cars or freight car brakes or any appurtenances of a freight car?

A. Since the separation of the company, no; previous to that as car builders we simply applied what the railroad company required in freight cars.

Q. That is, the railroad furnishes the specifications and you build the car?

A. That is right. The Pullman Company has never had anything to do with the operation of freight cars, I mean to say, directly. We may have owned freight cars and financed them and the railroads have been paying for them.

[fol. 1439] The Court: Well, does your company construct a particular type of car for any given railroad, or is it standard equipment throughout?

A. Our company doesn't construct cars of any kind; we are in the same position as the railroad, not exactly in the same position, but we are buying all our new cars from the Standard Car Manufacturing Company. The Standard Car Manufacturing Company is simply a car-building concern, a contractor for cars. They will build cars for anybody to anybody's specifications.

The Court: You mean cars other than Pullman cars?

A. Yes; other than Pullman cars. They are contractors building cars for any railroad in the country on a competitive basis with other manufacturers.

Mr. Strauss: Do you mind if I ask a question?

The Court: Go ahead.

Mr. Strauss: Along in line with the Court's question, do different companies over lines you operate cars, do you have different types of cars for different systems?

A. We do. As a general proposition we operate Pullman standard cars, but have special cars; if a railroad desires to operate special types of cars over their line, [fol. 1440] they will have to make necessary financial arrangements with the company. It is a matter of contract for those special cars, and we are glad to furnish anything that our customers, the railroads, desire, and we have provided many special cars for the different lines.

Q. I was thinking of your testimony yesterday, with respect to the Pennsylvania requiring the— what was it, the P. E. brake?

A. No, the New York Central required the P. C. brake. We will do that any time. If railroad systems like the Pennsylvania and the New York Central which have a certain number of cars allocated as regular cars, they will call for extra cars; as traffic demands it, we supply them.

The Court: Then, these special cars that you might construct for the New York Central, their operation would be limited to the New York Central lines?

A. That is theoretically true; it doesn't practically work out that way. They might change their minds and say, "Take these cars off our hands, and give us something else," and we have to do it.

Q. But the ownership of those cars, if specially made [fol. 1441] is still in the Pullman Company, it is a Pullman Company car?

A. Yes.

Mr. Booth: Do these cars, so far as the structural strength is concerned, and the type of brakes that are used, their ends and ability to withstand strains, differ in any respect from your standard Pullman equipment?

A. They contain certain requirements for certain roads. They may want to have cars with stainless steel sides, we will provide that car. Certain railroads want the special brake like the electro-pneumatic; we will provide that brake. Other roads may want to have certain specialties in the form of special trucks, and we will provide special trucks, sometimes against our will. We are always in the position that we must bow to our customers.

Q. Some of them want special paint jobs?

A. Special paint job and special interior finish, particularly on the interior finish.

Q. No matter how the car is dolled up, it is still a standard Pullman car?

A. Still a standard Pullman car.

Q. Now, has the Manufacturing Company, at the present time, and has it since its creation as a separate unit, built [fol. 1442] freight and passenger cars, passenger coaches, and lounge cars, dining cars, even street cars, for other railroad companies and street railway companies?

A. I can't say as to street cars, but the other types of cars they have built of all kinds, I know of my own knowledge. As to the street cars, I don't know. The Manufacturing Company controls quite a number of plants, such as the Worcester plant in Massachusetts, and several other plants, and I am not in contact with the Manufacturing Company outside of what I see almost daily at the Pullman plant.

Q. Leaving out the street cars, is the Pullman Manufacturing Company in competition with other car building companies in the United States for supplying railroad companies with coaches, lounge cars, dining cars, club cars; in short, any type of freight or passenger car that they desire?

A. Yes, sir.

The Court: Is there such competition in the Pullman car field?

A. No, sir.

Q. You have the exclusive rights on that?

A. The Pullman cars, by agreement, probably "agree-ment" is not the right word to use, but the Pullman Company is under the control of the Interstate Commerce Commission in its methods of accounting, and subject to all the acts and rulings of the Interstate Commerce Commission. I am now speaking on a subject which I haven't handled, and I only know from general knowledge; and in this investigation, the question of its relation to the Manufacturing Company was thoroughly investigated and the Commission tacitly approved an arrangement of cost and a percentage of costs, which the Manufacturing Company showed, was less than the average profit derived from contract cars, and on that basis the cost and percentage arrangement between the Pullman Company and the Manufacturing Company was tacitly approved by the Commission.



Mr. Mason: I think what His Honor had in mind, in so far as the business of providing sleeping cars in the United States is concerned, the Pullman Company has a virtual monopoly of the business.

A. Not at all. There isn't any reason in the world why anybody shouldn't build sleeping cars if they could do it more economically.

Q. I mean, the provision of sleeping cars for the railroads, as a practical matter, there are no other companies [fol. 1444] providing sleeping cars?

A. There are no other, but there is no reason why there shouldn't be if they could do it as economically.

Q. As a matter of fact, there is some competition in the field of providing sleeping cars in this issue, that the Canadian companies do provide some of their sleeping cars?

A. Yes, they have their own sleeping cars.

Q. Although you provide Pullman's for them?

A. I wouldn't say we provide Pullman cars for the Canadian roads; we provide Pullman cars in through service cars, running from Canada into the United States. We are usually providing half and half, Pullman cars on one line and Canadian Pullman cars on the other line. We don't operate in Canada.

Q. There is at least one railroad in the United States, and perhaps more, which provides its own sleeping cars, in part at least, in spite of the Pullman Company's willingness to do so?

A. I think you have reference to the Milwaukee, but the Milwaukee recently found it to their advantage to contract with the Pullman Company for new cars. I know of no [fol. 1445] other road that does it.

The Court: Is there a distinction between "sleeping car" and "Pullman car," or are they synonymous?

A. They are synonymous.

Mr. Booth: The Pullman Company, however, has cars such as club cars?

A. Yes, I was going to add that a Pullman car is essentially a sleeping car, but Pullman Company owns other

cars. When we speak about Pullman cars, we usually mean sleeping cars, but we have parlor cars, lounge cars, and club cars.

Mr. Booth: The clerk has been handed a sheet, consisting of one page, which we ask to have marked "Defendant's Exhibit 108" for identification.

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 108 for identification.

Mr. Booth: The title is, "The Pullman Company, Number of Pullman Cars on Hand December 31st." Have you a copy of that before you, Mr. Parke?

A. I have.

Q. Is there a correction you desire to make opposite the year 1929?

[fol. 1446] A. There is. In rechecking after preparing that statement we found that in 1929 there was an error in the number of steel cars for that year. Instead of 294 it should be 394. In other respects the figures are correct.

Mr. Booth: May we have the figures 294 in column D, and also in column E, corrected to read 394?

The Court: It may be corrected.

Mr. Booth: With that correction, Mr. Parke, is this statement taken from the records of your company?

A. This statement is taken from the records of the engineer of valuation and we had it rechecked very carefully.

Q. He is the engineer of valuation in charge of the valuations made under the valuation sections of the Interstate Commerce Act?

A. That is correct.

Q. And he maintains a constant and current record of cars owned and on hand?

A. That is correct.

Q. What is meant by the expression "on hand" in the title as quoted?

A. That means the cars that we had at the end of that year.

[fol. 1447] Q. Serviceable?

A. Serviceable cars, yes, sir.

Q. Do you retire cars from time to time?

A. We do.



Q. Those cars would not be classified as serviceable from the time that the company in some formal way marked them for retirement?

A. They would in this respect, that they wouldn't show up on this statement until they had actually been retired on the books. It might be possible that in cars on hand it may include a number of cars which are scheduled for retirement, which have been set aside but haven't as yet been retired on the books.

Q. I notice in this statement, answering his Honor's question a few moments ago, that the first steel car you added to your equipment was in 1907?

A. Yes, sir.

Q. And that the next steel cars were constructed in 1909, and only five of them were added during that year; is that correct?

A. That will be correct. My impression previously was that the first cars were turned out in 1910, but they started to build them in 1909, and this statement is unquestionably [fol. 1448] correct that five of them were turned out before the end of the year.

Q. You added in 1910, 519 steel cars, is that correct?

A. Yes, sir, that is correct.

Q. The same during the following year?

A. That is correct.

Q. And then the succession of additions of steel cars, as shown in column D of the exhibit; is that correct?

A. That is correct.

Q. In 1912, the last wood car was added to the supply of the Pullman Company, is that correct, of which there were only twelve added in that year?

A. That is correct, but I cannot tell from my knowledge at the moment just what they were. There was something special about building those cars.

Q. They weren't built for regular service?

A. No; there was something special about them, and I can't recall just what it was. The 54 cars, wood cars, shown added in 1910, were cars that were under construction, and a lot had to be completed and they were completed in 1910 with the steel cars, but after 1910 we didn't build [fol. 1449] any wood cars, and this record shows there were twelve cars built.

Q. Turning to column F, which shows the number of wooden cars rebuilt during the years—no, we will confine

it from 1912 to 1916, leaving out the years prior to 1912. In what particulars were those cars rebuilt? How were they rebuilt, and what was done with them?

A. They were rebuilt. The principal improvement added was steel underframe, and steel draft gear.

Q. Will you explain to the Court for the benefit of the record what is a draft gear and what is its function?

A. The function of a draft gear is to provide slack connection between cars and also a cushioning means to absorb any shock which may be incident in the operation to the slack existing between two cars, to absorb and dissipate the shock.

Q. What was the type of draft gear in use in 1912?

A. In 1912 it was a Westinghouse D-3 Friction draft gear. That was a good draft gear, but there was no continuous steel attachment from one end of the car to the other. The draft gear in cars previous to this, the reinforcement [fol. 1450] were simply applied to steel members extending from the end of the car to the bolsters supporting the body. To strengthen the cars in later years, after we started to build steel cars, a continuous steel member, draft sill, known as steel center sills, were provided for the cars.

Q. What is the type of draft gear at present in use?

A. When we speak of the present, we are dealing with light weight cars.

Q. I mean of the standard weight cars.

A. Also a type of friction draft gear. We have very few if any, of the D-3 draft gear in service. There may be a few. Practically all of the draft gears of the latest Westinghouse type are plate type.

The Court: Do you now have in service any wood cars or wood underframe?

A. We haven't a wood car in service. At the end of 1939 we had on our books, eight wood cars that operated in Mexico. Today two of them have been retired, three of them are operating in Mexico, and three of them have been stored in the shops, taken out of service, taken off the books, so we haven't today a single wood car in operation in the United States.

[fol. 1451] Mr. Booth: What is meant by the expression "purchased" in column 1?

A. The purchase of cars that are taken over from railroads when sleeping car lines or tourist car lines have been absorbed. The railroads, like the Great Northern, wanted us to take over their tourist car service, they have some tourist cars they don't want to maintain. An arrangement was made to take over those cars, scrap them or put them in use.

Q. What was this 257 cars purchased in 1912, 1913, I believe it is?

A. I don't know. I couldn't say. I wasn't with the company in 1913.

The Court: I notice you haven't purchased any, according to this exhibit, since 1925.

A. That is correct. 1925, that was the Central of Georgia Lines, that was the last line operating their own Pullmans. They found it wasn't economical to do so, and they wanted Pullman service.

The Court: We will take our morning recess.

(Thereupon, a short recess was taken, after which the witness, Peter Parke, was recalled to the stand and proceedings were resumed as follows:)

The Court: You may proceed.

[fol. 1452] Mr. Booth: If Your Honor please, I offer in evidence the statement to which the witness is testifying as Exhibit 108.

Mr. Strouss: I object to this exhibit only on the ground that it is irrelevant and immaterial; not on the ground that the records are not produced.

The Court: The objection is overruled. The exhibit may be received in evidence.

(The document referred to was received in evidence, and marked "Defendant's Exhibit No. 108.")

Mr. Booth: The next exhibit has been handed to the clerk and we ask that it be marked "Defendant's Exhibit No. 109 for identification."

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 109 for identification.

Mr. Booth: Mr. Parke, has there been prepared at your direction, and from the same valuation records of the

company, a statement similar to defendant's exhibit 108, but showing the cars on hand as of December 31st of each year of the three classifications of wood, steel, and light weight?

A: Such a statement has been prepared at my direction.

[fol. 1453] Q. Is it correct to the best of your knowledge and belief?

A. It is.

Q. Referring to this statement, the first column shows the years, does it not?

A. Yes, sir.

Q. And the second the total number of cars on hand?

A. That is correct.

Q. And the third, the number of wood cars?

A. Correct.

Q. The fourth, the number of steel cars?

A. Correct.

Q. And the fifth and last column, the number of light weight cars?

A. Yes.

The Court: What do you mean by that last?

A. The new type of light cars, built of light steel or alloy aluminum.

Q. The type referred to by you in your testimony yesterday?

A. Yes, sir.

Mr. Booth: The cars in the four bottom blocks shown in exhibit 107?

A. That is right. That is the only type of cars that are [fol. 1454] being constructed today. We have entirely abandoned the old construction, and have gone to the alloy steel construction.

The Court: What you formerly termed your steel cars will ultimately become obsolete?

A. Obsolete on account of the weight.

Q. You have struck off as much as 50,000 pounds on a single car?

A. Yes, sir.

Mr. Booth: There is no structural defect in the steel cars, you simply desire to lighten the weight of the car?

A. Yes.

Q. And permit the running of the so-called streamlined trains?

A. Permitting the running of long trains. Heavy cars are a detriment with not enough motive power to handle as long a train as desired. Adding light weight cars, that would permit the operation of long trains, and that is the only reason. It is a very great increase in expense to build these cars, but railroads demand it.

Q. On the matter of expense, there is no expense figures in No. 107. Roughly, what is the difference in expense of constructing the standard Pullman car of the type shown [fol. 1455] in the 1929 block and the standard Pullman car of the type shown in the 1939 block?

A. A conventional Pullman car today could be built for approximately, I would say, \$35,000. We have no up to date figure, of course, because no such cars are being built, but that would be my judgment, \$35,000. The light weight cars cost approximately \$80,000.

Mr. Strouss: Both on today's costs?

A. On today's costs, yes, sir.

The Court: You anticipate you will ultimately be able to substantially reduce the cost of the 1939 cars?

A. We do. The cost varies, depending on the number of cars you build at one time. If you place an order for a large number of cars, you may cut the cost materially, maybe ten or fifteen thousand dollars a car. If you place an order for one car, or place an order for ten cars, it makes a big difference in the manufacturing costs.

Mr. Booth: It makes a large difference in the designing cost?

A. It is in the designing cost. That is the big engineering item to build one of these new types of car. In addition, there are patterns, templates, formers, dies, and of course, [fol. 1456] you have to prorate it over the number of cars in a lot. The big expense, naturally, is the engineering expense.

Q. So the net result of this statement, No. 109 for identification, is that the Pullman Company has on hand as of December 31, 1939, only eight wooden cars, the location and the use of which you stated a while ago?

A. That is correct.

Q. That it has 6756 all steel cars of the conventional Pullman type?



A. Correct.

Q. And 288 light weight cars of one of the types shown in the five blocks on the second column of exhibit 107?

A. Correct.

[fol. 1457] The Court: Mr. Parke, what accounts for the very substantial difference in the number of steel cars on hand in 1938 and 1939, some 600 steel cars?

A. The difference is altogether on account of retirements on account of age, age and obsolescence. Obsolescence is frequently a cause of retiring cars.

Mr. Booth: We offer the statement in evidence as defendant's exhibit No. 109.

Mr. Strouss: That is objected to only on the ground it is irrelevant and immaterial.

The Court: Objection overruled, it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 109.").

Mr. Booth: Statement 108 referring to rebuilt cars, is that an engineering term or an accounting term as used in that statement?

A. "Rebuilt" is really an accounting term. When in remodeling cars or improving old cars there is spent a considerable amount of money in excess of a certain fixed amount they call it a "rebuilt" car. Rebuilding a car sometimes consists of placing rooms in a car which was originally built as a section car and spending a great deal of money on that car to doll it up and also putting in some improvements if the [fol. 1458] car is not provided with the latest, and, if that cost, we will say 50 per cent of the cost new, the accounting department sets it up as a rebuilt car, or at least they did that in certain periods. What is termed a "rebuilt" car has varied from time to time and I am not sure today but what the Interstate Commerce Commission has in their accounting method changed it from time to time. We cannot set up a car new, when we deal with a rebuilt car, it is set up on our books at an increased value. If we spend a certain amount of money for improvement costs, it is simply a maintenance cost. The Interstate Commerce Commission prescribes exactly what we have to do. We have to convince them that we have made enough changes in the car to set it up at an increased value on our books.

Q: In other words, if it is charged as maintenance expense it would be charged as operation?

A. That is right.

Q: Otherwise it would be charged to capital investment?

A. That is right.

Q: Mention has been made in the testimony regarding passenger train operation of the so-called "Pullman tourist [fol. 1459] car." You are familiar with those, are you not?

A. I am.

Q: From the standpoint of structural strength and all of the other improvements in the structure and body of the car you have mentioned, are the steel cars of the tourist type any different from the steel cars of the conventional or standard type?

A. They are not. From the standpoint of strength there is no difference, they have the same strength requirement.

Mr. Booth: You may cross-examine.

Cross-examination.

By Mr. Strauss:

Q: I had intended to ask you about these tourist cars. You do operate the tourist Pullmans as well as the standard Pullmans?

A. Yes, sir.

Q: Those are your older type Pullman cars?

A: At one time we built tourist cars as tourist cars and the only difference between them and the standard sleepers was in the interior finish, it was simplified, not quite as expensive. Now we take our older Pullmans and instead of spending a great deal of money on them to maintain [fol. 1460] them in standard service, if there is a demand for tourist cars we leave them the way they are without such improvement. By improvement I mean this, the carpet may be of an old pattern, the upholstery may be of an old pattern. If we continue them in standard service we may have to doll them up, change that. If we turn them into tourist service we leave them the way they are until actual replacement is needed due to wear. Also in older steel cars built we had old light fixtures not nearly as

attractive. If we had to maintain the cars in standard service we would change out the light fixtures but if we are turning them into tourist cars we leave them the way they are. There is really very little difference today between the tourist car and the standard sleeper except they are not dolled up so much.

Q. What about air conditioning, has that been put in all tourist cars?

A. That is a thing that is being done now, tourist cars are being air conditioned. We first didn't intend to do that, we intended to make that one of the great distinctions between the tourist car and the standard sleeper, but the railroad companies insisted that they wanted that and there was nothing to do but apply air conditioning in [fol. 1461] tourist cars.

The Court: Approximately what would that cost per car?

A. About eight or nine thousand dollars a car.

Mr. Strong:

Q. Is that dry air conditioning?

A. What do you mean?

Q. It is over refrigeration?

A. No, we have our standard air conditioning system which is a regular compressor system, regular mechanical refrigeration using Freon gas. We have, however, ice refrigeration in many lines on short runs. Ice refrigeration seems to work all right. We provide whatever refrigeration system is best suited but our standard system is a mechanical refrigeration system.

Q. That classification, "rebuilt" as I take it from your testimony is a classification fixed by the Interstate Commerce Commission?

A. Yes, as I stated a moment ago at one period our own accounting department set up a rule that if we spent over 50 per cent of the original cost of cars in making repairs and revamping the cars the expense would be capitalized and the car set up at a new value. The Commission, however, and I am only stating now from general knowledge, had some objection to that and there are some other rules [fol. 1462] now and whatever we set up now is entirely under the control of the Interstate Commerce Commission.

accounting department. I know there were same changes that they didn't approve of our method.

Q. The total cars are shown on exhibit No. 109 in the year 1939?

A. Yes, sir, that was the number of cars on our books in 1939.

Q. How many cars do you have actually in service now, do you know?

A. It is variable, of course, it runs about six thousand cars.

Q. Of course these cars include cars now that were built from 1910 on?

A. No, many of the 1910 cars have been retired. We show on a previous exhibit which cars were built each year and as I pointed out there is a reduction in the number of steel cars.

Q. Perhaps all of those of 1910 have now been retired?

A. Perhaps, I can't tell, it all depends on the service.

Q. But this total would include cars over the different years back to a period before 1920 at least?

A. I am not sure about 1920. That would be nearly [fol. 1463] twenty years and we may have cars retired before twenty years. It all depends on the service they are subjected to. Some of the cars may be used in stand-by service and not much used.

Q. Would you say that cars as old as twenty years would still be included in these in service?

A. Yes, very definitely because the Commission has established the life of the car and as I recall it is twenty-seven some odd years on which they base the rate of depreciation.

Mr. Strauss: I think that is all.

Re direct examination.

By Mr. Booth:

Mr. Booth: We would like permission on this exhibit No. 109 to substitute the planograph copy for the one filed with the clerk.

The Court: It may be substituted.

Mr. Booth: One other question. Regarding the lighting of these cars, these standard or conventional tourist cars, lounge cars, club cars, and auxiliary cars operated by the

Pullman Company. How are those lighted at the present time?

A. At the present time all our cars are independently lighted by a generator on each car. The generator is driven [fol. 1464] either through mechanical drive or through belts with the pulley on the car axle so that the current will be furnished when the train is in operation. In addition each car is provided with storage batteries which will light the car when the train is standing still.

Mr. Strouss: You don't operate diners, do you, Mr. Parke?

A. We do not.

Mr. Booth:

Q. You operate meal service in some of your club cars?

A. We do, we operate club cars and lounge cars where our commissary department furnishes meal and refreshments.

Q. You say that the electric lighting is uniform now on all of your cars which are on hand and in serviceable condition?

A. That is correct.

Q. Formerly they were lighted by gas, were they not?

A. Yes.

Q. When was that discontinued?

A. It is shown on this exhibit here. They were lighted with Pintsch gas in the early days, that is, within this period of 1900, lighted with Pintsch gas. In 1906 there was applied to certain lines eastern and western main lines a head- [fol. 1465] end system of electric lighting. The railroad provided a generator in the baggage car ahead and lighted the individual cars from the head-end. In that connection, however, we still maintained the Pintsch gas on the cars because in the early days of electricity there was frequent failure of car lighting and we always had to have a standby to help out. Then in 1910 we started to put in the present modern system of a generator on each car driven from the car axle and storage batteries and at that time the electric light had been in 1907 we had the combination of that also, but in 1910 that was done away with and from that time on, that is when we started to build ~~new~~ cars, we eliminated Pintsch gas altogether and had reliable operation of the generator.



Mr. Strouss: What is Pintsch gas?

A. It is simply a trade name, it is an oil gas compressed under very heavy pressure and maintained in tanks.

Mr. Booth: No further questions.

The Court: The witness may then be excused and the court desires to state that this testimony has been very interesting and very enlightening and I compliment the witness on the clear manner in which it has been presented. [fol. 1466] You may be excused.

(Witness excused.)

J. B. BAKER, was called as a witness in behalf of the defendant and being first duly sworn testified as follows:

Direct examination.

By Mr. Mason:

Q. Will you state your name and field headquarters to the reporter?

A. J. B. Baker, San Francisco, California.

Q. By what company are you employed, Mr. Baker?

A. I am valuation officer of the Southern Pacific Company.

Q. How long have you been valuation officer?

A. Since July 1, 1929.

Q. What was your railroad experience prior to that time?

A. I have been with the valuation department of the Southern Pacific Company since about December 1, 1915, and prior to that I began service in August, 1902, in the engineering department and from 1902 to 1915 I was in engineering, construction, and maintenance work, being road master in 1910 and 1911; on construction work to 1913 and roadmaster again in 1914 and 1915.

Q. Since 1915 you have been in a particular department of the company devoted to valuation?

A. I have been in the valuation department since 1915 and that was about the time that the original inventory work was started by the Interstate Commerce Commission and from the field inventories it was carried through to the placing of value on the properties of the company.

Q. Does the Southern Pacific maintain a particular bureau or department designated as the department of valuation?

A. It does, yes. In addition to the original valuations which were completed on a tentative valuation or final valuation placed on the properties by the Commission we are now required to report annually to the Commission under certain valuation orders changes in the property, both quantities and units added and retired, and their costs.

Q. Does the company maintain a particular department for the purpose of a continuing valuation of property and of reporting in that connection to the Interstate Commerce Commission?

A. It does, those reports are made annually.

[fol. 1468] Q. You are the head of that department now?

A. I am.

Q. To what officer do you report in the company?

A. I report to the chief engineer.

Q. Do you know and if so will you state when the valuation department was first set up in the company's organization?

A. The valuation department was first organized in 1910 to prepare valuations required by the State Commission, the Railroad Commission of California, but that work was discontinued after the valuation act, Section 19-A, was added to the Interstate Commerce Commission act. That was as of March 1, 1913.

Q. Did the company then organize a valuation department to work with the Interstate Commerce Commission in valuing the properties of the company?

A. On the method and orders prescribed by the Interstate Commerce Commission the parties were sent out by the Commission and the company in some cases had representatives and in other cases it was a joint work and then we were also required to furnish the Commission with numerous records, that is, the cost of various classes [fol. 1469] of material, such as ties, rail, and lumber and record costs of many of the jobs, that is, buildings and bridges and structures of that kind.

Q. That type of information was furnished from the records of the company?

A. That was furnished from the records of the company.

Q. Did you work with the Commission representatives in this process of valuing the company's property?

A. I did, yes.

Q. Was a valuation made by the Interstate Commerce Commission for the properties of the company?

A. Yes, the valuation was made on the final value, but prior to that time the Commission sent out various parties, inventory parties, for example, a road and track party which inventoried the grading and track structure and related items; structure parties which inventoried the steel bridges and trestles, buildings, water and fuel stations, and facilities of that character; parties which inventoried the signal and telegraph lines; equipment parties inventorying mechanical facilities and the equipment, rolling stock, and from these inventories in which the carriers were [fol. 1470] furnished a copy and also the carriers had a representative along with each party assisting in obtaining records and identifying the facilities, the Commission in their office organization collected from these inventories in a quantity form the quantities and facilities or units on a basis that they could be priced out on a money return. The money was based on the period generally from 1910 to 1914 inclusive with some records going back over a ten-year period and the quantities adjusted to the date of June, or as a valuation date which for the Southern Pacific Company property was June 30, 1916, and these quantities were priced on the 1910 to 1914 period.

Q. Were reports prepared by accounts and districts of the line showing the valuations assigned?

A. The property was divided into valuation sections for convenience, convenience in pricing and also for future use, that is, sections of main line always broken at a state line and broken at other convenient points, branch lines, for example, being separate valuation sections. The engineering report prepared by the Commission was a value by accounts by valuation sections with money summaries. The engineering report was a quantity set-up priced on the 1910 to 1914 basis and there were money [fol. 1471] summaries which followed that. The land section was composed of appraisers both for the Commission and the company which acted jointly and they placed a value on the property, a market value as of the valuation

date and those values were by zones and by valuation sections and they issued a land report.

Q. The land report shows what as to the lands covered by the valuations investigation by the Commission?

A. It shows the areas either in square feet or acres and that is valued on a market value as of June 30, 1916, on the Southern Pacific property for the major portion of it. There was some variation in valuation dates, some of them being June 30, 1915, and some June 30, 1917.

Q. Were reports issued as to the fixed properties, by that I mean the tracks, roadbed, and other structures that you have described known as engineering reports?

A. The engineering reports covered all of the improvements except the land.

Q. Did the engineering reports show value on the basis of cost of reproduction?

A. That was the reproduction as of June 30, 1916. [fol. 1472] ever, that was based on the pricing period from 1910 to 1914.

Q. Was there any showing of the cost of reproduction less depreciation?

A. Yes, the engineering reports showed the cost of reproduction less depreciation.

Q. Did it also show the cost of reproduction new based on the prices you have mentioned?

A. Yes, it showed the cost of reproduction new and the cost of reproduction less depreciation.

Q. Do the valuation reports that you have mentioned segregate between the properties not used in common carrier service by the company and those which are used in that service?

A. Yes, the principal value placed on the property was those properties used in common carrier service although they reported on the non-carrier properties, they reported a value.

Q. And the non-carrier properties were separately treated and separately reported?

A. They were separately reported.

Q. You spoke of this valuation having been with some exceptions as of June 30, 1916. Has any provision been made to bring such valuations down to later dates?

A. Yes, the act itself provides that after the original [fol. 1473] valuations are completed the Commission will inform itself of the additions or extensions or changes in

the properties included in the original valuations and also the additions and betterments, improvements or retirements that have been added subsequent to the valuation date and that in order to do that they have issued certain valuation orders, order 3 being the primary one with supplements which require that the carriers will report annually to the Commission changes by valuation sections showing the quantities added or retired and their cost. [fol. 1474]

Q. Does the Southern Pacific make such annual reports to the Commission?

A. Yes, we report annually to the Commission the changes in the properties?

Q. Are those reports prepared in your office and under your supervision?

A. They are.

Q. Does the Commission make any check against those reports by means of its own forces?

A. Yes, the Commission has examiners that review not only the return that we are required to make direct to the Commission, but the underlying completion reports. Those are more detailed reports covering each approved project, and in addition to the check of the record, they also spot-check in the field for quantity returns, and items of that character. In other words, if we were to put in a construction, a line change or a piece of construction, they would undoubtedly make a field check of that particular project.

Q. They have done that, in your experience?

A. They have done so.

Q. Are the land values brought down to date in the same way?

A. Yes, the Commission have appraisers assigned by districts, [fol. 1475] and we are also required under the regulations to work with them, and most of the work, a great deal of the work is joint appraisal. They are bringing the land values to a current basis continually, that is, they are bringing it up for a certain area to a particular date, and then they will bring another usually terminal areas, to the year following, and that work continues, although at no time have they fixed a value as of any particular date. It is a continuing process on land values particularly.

Q. What is the number and style of the form upon which you make these periodical annual reports to the Interstate Commerce Commission?



A. Our reports are made on Form VB, 588, which is a summary of inventorial quantities and units, and their costs. There is a lag in that report due in part to the time that it requires the railroads or the division offices to report on a particular project, and the Commission do and have asked us to furnish money summaries on VB forms 589, which is a money report only, and does not reflect the quantities.

Q. Do you retain in your records copies of these reports on these forms 588 and 589?

A. Yes, we retain copies of all reports on VB Form [fol. 1476] 588 and 589, and also the original of the completion report and the record of property changes, which underlies those reports.

Q. Do you from time to time make preliminary or interim reports other than the reports you have just mentioned?

A. Well, the 589 is a tentative report, or money report, which would be furnished if we are not able to get out the 588, which is a money and quantity report.

Q. What is the latest report—what I mean by that, down to and including what latest date have you reported to the Commission on Form 588, Form VB 588?

A. We have filed on the 588 for the year 1936 and that is now being checked by the Commission's examiners. We are just completing the report for the year 1937, and we have filed on VB Form 589 for the years 1937 and 1938.

Q. Are the records in process of completion for the year 1939?

A. 1939 is in the process of development, that is, the completion reports for the particular jobs completed during that year are now coming in from the division offices, are being prepared in our offices.

[fol. 1477] Q. Is the material at hand from which you will shortly make the report to the Commission on Form 589 for the year 1939?

A. It is on hand on a preliminary basis. For the year 1939 we would take what reports we have in, plus the record money shown on the auditor's reports for any projects that have been completed during the year in making up the report at the present time. The reason for the delay is that it requires some time after a job is completed, to make the completion report in the detail, and to show the quantities and the money that the orders call for.

Q. Those are all details which must necessarily be available before the report is made to the Commission?

A. The money record is available in the accounting office accumulated by months as expended.

Q. Are you able, from these reports, or from your retained copies of these reports to the Commission, to present a valuation of the lands and fixed properties of the company used in its carrier service as at the end of any particular year since 1916?

A. We are able to take the moneys for both facilities [fol. 1478] and lands as of the original valuation date, and add to that the moneys that have been reported on Form VB 588 or 589 for the years up to and including 1938. For 1939, as I say, it will be necessary to take the record as now available from completion reports and going to the auditor's record for those jobs which have been completed and not yet returned on the regular reports.

The Court: Well, Mr. Baker, when you refer to land, to land values, you refer to rights of way, ground used for station purposes; do you have reference to grant lands, or what do you mean?

A. That takes all lands used for rights of way, station grounds, and for other carrier purposes, also the values are available for the lands classified as non-carriers.

Q. Does the Southern Pacific own land grants?

A. Well, the grant lands are not included in our record. They are owned by a subsidiary company.

Q. They are handled separately?

A. Yes, sir.

The Court: We will be at recess until two o'clock.

(Thereupon, the court stood at recess.)

[fol. 1479] December 12, 1940, two o'clock P. M.

All parties being represented, as heretofore noted, proceedings were resumed as follows:

Mr. Mason: Do you want to call Mr. Kiley now?

Mr. Strouss: Yes.

Mr. Mason: Your Honor, there is a matter of the correction of the record by stipulation between Mr. Strouss and Mr. Polley and ourselves, page 1249, during the testimony of Mr. Warfel, he answered a question as to the ruling

grade on the Union Pacific over Sherman Hill between Cheyenne and Heyrin by saying it was 1.26 per cent, and after he had so stated and read the transcript he realized he had misspoken himself, and he advised both of us that the correct percentage was somewhat greater. Mr. Strouss and I have stipulated that the answer may be corrected to read the correct figure.

The Court: What is the correct figure?

Mr. Mason: The correct figure is 1.55 instead of 1.26.

Mr. Strouss: I agree to that stipulation.

The Court: The record may show the change.

Mr. Mason: That is line 5, page 1249, of the transcript, [fol. 1480] being the transcript of Tuesday, December 10, 1920.

Mr. Strouss: I think there was one other thing, when Mr. Baker takes the stand, of course, my running objections are not intended in so far as the testimony of Mr. Baker is concerned. He is the Southern Pacific representative and what objections I have to his testimony will be made as he testifies.

The Court: Very well, that will be better.

J. P. KILEY was recalled to the stand, and testified further as follows:

Cross-examination.

By Mr. Strouss:

Q. Mr. Kiley, you are assistant chief accounting officer?

A. No, I am assistant to the operating vice-president. I formerly worked for the chief accounting officer.

Q. How long have you been in your present position?

A. About a year.

Q. And before that, you were what?

A. I was assistant, engineer assistant to the chief accounting officer.

[fol. 1481] Q. About how long?

A. About nine years.

Q. Now, what are your duties in your present position?

A. My duties in my present position are whatever work may be assigned to me by the chief operating officer, and

they consist principally of economic studies in connection with railroad operation and maintenance, and maintenance of equipment, the acquisition of new equipment, studies of motive power, formation of policies with respect to trucking; in fact, every phase of railroad operation.

Q. Now, is that work done from the records of the company?

A. Yes, sir, it is done from the records of the company, from observation, tests, inspection.

Q. Your work as engineering assistant, what was the nature of your duties there?

A. Very similar to the present work. Prior to my association with the chief operating officer, most of the work of that type was done by the chief accounting officer, chief financial accounting officer, and at his death that type of work was taken over by the chief operating officer.

[fol. 1482] Q. Now, how often do you travel over the entire system of the Milwaukee?

A. Well, I travel over portions of the system quite often. There are some lines on the railroad, some branch lines that I have never traveled on, but I have been over all of the main lines at least once in the past year, several of them a good many times.

Q. How many times have you been over the line from Chicago to Seattle?

A. The complete line from Chicago to Seattle, once. I have made several trips to portions of the line, I have been out as far as Roundup, Montana, twice—three times in the last year, I believe.

Q. What was the nature of that trip?

A. It was an inspection of our coal properties at Roundup, Montana.

Q. You just continued right on straight through?

A. No, that was a separate trip. I did make a trip from Chicago to Tacoma and back over a good portion of the line last June on a test freight train.

Q. Was that a continuous trip?

A. Yes, sir.

[fol. 1483] Q. You didn't stop at different terminals and spend time there?

A. Yes, we stopped at different terminals in order to switch the train and to service the equipment.

Q. How long would you be there?

A. Well, some terminals we were there for five or six hours, some terminals just an hour. It varied, depending upon the amount of work that had to be done.

Q. What did you do while you were there?

A. Observed the work that they were doing, switching or transferring of freight, or whatever work they happened to be doing.

Q. That is, on whatever train you were on?

A. Yes, or whatever was to be done at the terminals during the time I was there.

Q. How many times have you been over the line to Omaha in the last year?

A. Probably a half a dozen times.

Q. And to Rapid City?

A. I haven't been to Rapid City for a considerable time. I haven't been west of Canton, west of Canton, that is considered a branch line of our railroad. While it shows as a main line, we run one freight train and one passenger train [fol. 1484] daily through there and the passenger train carries freight cars, but that is not an important line on our railroad, and it would have to be some particular special study to require me to go out on that line.

Q. How many times have you been to Canton?

A. Three or four times this past year.

Q. And to Kansas City?

A. I believe twice in the last year.

Q. Terre Haute?

A. I haven't traveled over the line north of Terre Haute for a considerable time. I have been down south of Terre Haute twice or three times in the last year.

Q. Now, you testified you are familiar with all the ruling grades on the system. How did you get the information as to percentage of ruling grade?

A. From the engineer's profile.

Q. And that is what you were referring to when you testified as to ruling grade?

A. That is where you obtain the information as to percentage of ruling grade. The determination of the actual grade may be obtained either from calculation or from observing the operation of a dynamometer car.

[fol. 1485] The Court: What type of car is that?

A. It is a car used to measure the performance of a locomotive. It has instruments that measure the tractive



power, the pulling power of the locomotive, the speed, the application of the air, mile posts. It is really a test car that measures practically everything in connection with the operation of a locomotive.

Mr. Strouss: Now, how often do they run those cars over the road?

A. Well, it depends, as the occasion requires. Whenever we obtain new locomotives we always make very extensive tests of the capacity and the performance of that locomotive over various sections of the line, in some cases in connection with possible future operation of the motive power over sections of the line that the original acquisition of the motive power didn't contemplate their operation.

Q. When was the last time that you rode in one of those?

A. Last June.

Q. Is it from your memory of the degrees of grade registered by that car, that you were testifying here?

A. Now the only thing that that dynamometer car will [fol. 1486] tell you is the grade that requires the greatest power from the locomotive. Now, as far as the degree or the percentage of the grade is concerned, that can be determined only from survey or records of the engineering department.

Q. Now, your exhibit 97, through freight trains, there were other trains that you didn't include in the exhibit?

A. There were other than through trains that I didn't include on the exhibit. I included on the exhibit all trains that operated from one terminal to another, as shown on that exhibit.

Q. What trains did you not include?

A. I didn't include any trains that didn't operate clear through. You take, for example, if a way freight operated over a portion of the line, I didn't take that train at all, I didn't consider that train, or if on the section of the line under consideration there was a junction intermediate to the terminals, and the train operated only part way over that section of the line, that was not included.

Q. Now, on the passenger train exhibit, Exhibit 98, what trains were taken there?

A. All trains operating between Chicago and Twin Cities, all passenger trains operating between Chicago [fol. 1487] and Twin Cities, except two accommodation trains that handle principally head-end traffic and make all

station stops between those two points. I didn't include any trains that did not operate clear through between those two terminals.

Q. The trains shown on that exhibit did I ask you what trains—it seems I did—were mail trains, and what were not?

A. No, you did not. In that passenger exhibit, the Olympian and the Fast Mail, and the morning Hiawatha carry mail cars, using clerks, mail clerks. Storage mail may also be handled on the Pioneer Limited and the afternoon Hiawatha.

Q. Why did you take a four-months period for the passenger train study, and a ten-day period for the freight train?

A. I think it is a little harder to take—it is on our railroad, a little harder to take any short period of passenger train operation and expect to get any period that is representative of an entire year, and it is not quite as much of a job to take a four-months period for passenger trains as it would be for freight trains.

Q. Was it because you thought that would be more of an [fol. 1488] example of your normal operations?

A. Yes. In passenger service you have different seasons, or holidays that affect your passenger business more than it affects your freight business.

Q. Wouldn't a four-month period be more typical of your normal operations than a ten-day period of freight trains also?

A. It might be difficult to pick out four months; you can not pick out, in our case, the same months and expect to get exactly the same representative period throughout the year. It might be that four months would be a more representative period, but I don't know that they would. Your seasons in freight service, or your highs and lows in freight service don't change so rapidly as they do in passenger service.

Mr. Strouss: That is all.

[fol. 1489] Redirect examination.

By Mr. Mason:

Q. When you stated you had made one complete trip to Seattle you made one complete trip to Seattle and return in the last year?

A. Yes, sir.

Q. You have made trips to Seattle and Tacoma and return previously, have you?

A. Yes, before this year but that is a long ways from Chicago and we don't get out there unless we have some particular study to work on.

Q. When was that trip made?

A. In June.

Q. Was that the same trip in which you rode in the dynamometer car?

A. Yes, sir.

Q. Was that a special freight train?

A. It was not a special freight train, it was classed as a test train but was our coastline time freight that we operate every day in the year.

Q. How much mileage did you cover with the dynamometer car on that trip in June?

A. I rode in the dynamometer car, I should say around 3,500 miles.

Q. Counsel referred in your cross examination to the ruling grades and you said they could be determined from [fol. 1490] the engineering department's profiles. Did you bring those profiles with you to Tucson?

A. Yes, sir.

Q. Have they been tendered for the use of opposing counsel?

A. Yes, sir, they have been here all the time.

Mr. Strouss: For the whole system?

A. No, for the sections of the line included in the freight train exhibit.

Mr. Mason:

Q. Are you familiar of your own knowledge and observation with the general contours of the system?

A. Yes, sir.

Mr. Mason: That is all.

The Court: May this witness be excused with his records?

Mr. Strouss: I think there is a calculation that I have asked Mr. Kiley to check with my man who is working for me on these train sheets. They couldn't get it ready in time for him to be cross-examined on that this afternoon.

and it is my understanding if they can agree upon it, it is just a matter of taking off what the sheets show and if they agree that counsel will stipulate.

Mr. Mason: I understand what they are to check is the [fol. 1491] number of trains of 70 cars and less and the number of trains of more than 70 cars as shown by the train sheet or train sheets covering the district between Bensenville, Illinois, and Savanna, Illinois, including the trains reflected by exhibit No. 97 and other trains which may appear on the train sheets and that is the entire information which they are to agree upon.

Mr. Strouss: The exhibit covers a ten-day period. This will cover a thirty-one-day period or the complete month.

Mr. Mason: And that is all the information they are to take off?

Mr. Strouss: That is all the information.

The Court: With that understanding you may be excused.

(Witness excused.)

J. B. BAKER, resumed the witness stand for further direct examination:

Mr. Mason:

Q. Mr. Baker, will you say whether or not it is possible from the report rendered to the Commission or rather from the retained copies thereof on V. B. forms 588 and 589 and the other retained records in the office of the department of valuation to obtain the valuation down to a particular date, say the end of a particular year for any specified section of the line and for any item of the valuation account?

A. That is correct. From the V. B. form 588 or more particularly the underlying records, we can fix a value on the basis of the Commission's reports with subsequent additions and betterments a cost record as of any date and to cover any particular section of line that is desired.

Q. Can it be broken down by states at state boundaries?

A. All records are broken at state lines.

Q. Those of course would apply only to fixed properties and lands, not to rolling equipment?

A. Oh, yes, to the fixed property. Our reports to the Commission are split on state lines.

Q. Can you likewise furnish the information or obtain and prepare the information, I should say, by other districts such as by divisions?

A. We can break it at any desired point. It is a little more work to set up the quantities and re-price it but the record is so that it can be broken down for any section of line or any particular account or subdivision of the property.

Q. And the information when so obtained will reflect [fol. 1493] what the Commission found as of June 30, 1916, plus additions and betterments less retirements since that date as shown by the accounts currently kept?

A. That is correct.

Q. I will ask you to refer to a statement of one sheet bearing title, "Southern Pacific Company (Pacific Lines), Statement Showing by Accounts Appraised Market Value of Land and Reproduction Cost New of Other Facilities as Shown in the I. C. C. 19A Valuation Reports as of Valuation Dates Adjusted for Additions, Betterments and Retirements, as Shown in Carrier's Reports to I. C. C. under Valuation Order 3," with the added statement, "Does Not Include Rolling Equipment." Have you that statement before you?

A. Yes, sir.

Mr. Mason: May we have the statement marked as defendant's exhibit next in order for identification?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 110 for identification.

Mr. Mason: Was exhibit No. 110 for identification prepared from the forms B. B. 588 and 589 and the supplementary underlying records in the bureau of valuation to [fol. 1494] which you have referred?

A. It is a summary of the V. B. forms 588 and 589 to and including the year 1938. For 1939 we set up the record on the same basis as we will when preparing either the 588 or the 589. For the year 1939 there may be some adjustments before that record is finally turned over to the Commission but they will be minor in character.

Q. Will they have any substantial effect on any of the amounts shown in column E?



A. No, they will be very minor in nature. They might be somewhat greater, as all of the reports, that is, the completion reports covering particular projects are not in and we therefore have to rely for completed jobs on the accounting department's money records.

Q. Is all of this information a true reflection of the underlying records in your testimony or in the possession of the company I should say?

A. Yes, sir.

Q. Has it been compared and checked?

A. Yes, sir.

Mr. Mason: We have previously discussed the subject matter of this and following exhibits with Mr. Strouss and I understand that he does not desire or insist upon at least the production of the underlying documents. I may say that [fol. 1495] we are informed that they would be very, very bulky indeed.

The Court: Is that true, Mr. Strouss?

Mr. Strouss: Yes, that is correct.

The Court: May I ask the purpose of this, Mr. Mason?

Mr. Mason: The exhibit is for the purpose of bearing out that allegation of the complaint which states that we have made substantial investment in road and equipment since 1912 and more especially since 1920, the detail of which will be shown in subsequent exhibits, in improving our property; that we have substantial investments in our properties in states where our system operates and which we will show by subsequent exhibits is particularly addressed to Arizona, New Mexico, and California.

The Court: I assumed that that was true but I wanted to be sure.

Mr. Mason: This is also for the purpose of showing the value of the fixed properties, the use of which we claim is impaired by the restrictions of the law which we challenge. We offer the exhibit in evidence as defendant's exhibit No. 110.

Mr. Strouss: I object to all parts of the exhibit except that relating to properties in Arizona shown on line 5, the objection being based upon the ground that it is irrelevant [fol. 1496] and immaterial.

The Court: I will hear you on that, Mr. Mason.

Mr. Mason: I will have to refer to the answer, Your Honor. In paragraph 3A of subdivision 3 which is the

first affirmative defense, reference is made to improvements on defendant's railroad lines in Arizona and elsewhere since 1912 and more especially since 1920, in both road and equipment and it appears that this relates only to road.

Mr. Polley. Which page is that, Mr. Mason?

Mr. Mason: Page 5. By the expenditure of large sums of money, and while the allegation relates itself more emphatically to the equipment, nevertheless there is a sufficient allegation relative to expenditure of monies to road as well as to equipment. Paragraph 3C on page 7 relates to the expenditures in Arizona and perhaps does not meet the objection so definitely. However, there is also reference there to operations in the adjacent states of California and New Mexico.

The Court: I might state I can see where there might be some relevancy in the expenditures made in the adjacent states, but certainly with Oregon, Louisiana, and Utah, states such as those shown on the exhibit, frankly I cannot [fol. 1497] see where it would have any bearing on this trial here.

Mr. Mason: Your Honor, it shows we have made expenditures in other states for the purpose of improving our property so we may operate in accordancy with the best modern standards. Now, expenditures made in Nevada and Utah would have as a purpose and at least a result the operation, the improvement of the property so that we might operate longer and heavier trains than we did in 1912 and 1920. Similarly, as to Oregon and New Mexico and California and certainly similarly as to Texas and Louisiana which after all are merely eastward connections of the line across Arizona and New Mexico.

The Court: You mean you might offer that proof as to the state you have named, not adjacent states, on the somewhat similar theory on which the court has admitted the evidence as to these other railroads?

Mr. Mason: Yes, except that we operate these trains under the same rules as of course in Arizona, with the same engines, the same cars, the same cabooses, because they are interchangeable, in Nevada and Utah and Oregon and California, in New Mexico outside of the territory where the Arizona law operates with extra-territorial effect, [fol. 1498] in Texas and Louisiana and certainly a comparison of our own operations, if there be degrees of appar-

tenancy, is even more pertinent and relevant to the question of whether a similar operation is practicable in Arizona or whether the law operates unreasonably.

Mr. Booth: I think, if Your Honor please, the admissibility of this evidence cuts even more deeply than counsel has indicated. The case which has been referred to here as the Nevada Train-Limit case, the case of Southern Pacific Company vs. Mashburn—

The Court: What is the citation?

Mr. Booth: 48 Fed. Supplement 393, decided February 23, 1937. The opinion was a per curiam opinion by Matthews, Circuit judge, and Louderbach and Norcross, District judges. It is a somewhat brief opinion dealing with only a few features of the many that were involved in that case and I may say that the bill in equity in that case was substantially the same as the answer in this case, but at the conclusion of the opinion the court said: "The court approves and adopts the findings of fact and conclusions of law submitted for consideration by the special master. Defendant's exceptions to certain of the findings of fact so submitted are overruled." Now, following [vol. 1499] the announcement of that opinion a set of findings of fact were signed by the court which were practically identical with the findings of the master except for the necessary change in the preliminary paragraphs and those findings of fact go very fully into the system of the Southern Pacific Company as an operating unit as a system, go very fully into the operations conducted by the Southern Pacific Company on other parts of its system as to the relative safety of operation of trains on other parts of its system compared with operations in the state of Arizona as developed by statistics kept in accordance with the requirements of the Interstate Commerce Commission. While I do not claim for the decision of the court in the Nevada Train-Limit case any compelling effect as res adjudicata on this court or even stare decisis yet we shall argue when it comes to the argument of this case that the case is valuable and should be persuasive as a precedent just as any decision of a court of competent jurisdiction and high respectability on any question involving the same state of facts is received and considered by a trial court in any case, but these findings of fact of the master go to another point and that is the admissibility of testimony of what

[fol. 1500] may be used in this case. This three judge court in adopting the findings of the master and overruling the exceptions of the defendant to a majority of those findings has as we contend placed its stamp of approval upon the reception in evidence of the class of testimony which we offered and which was received in that case and which we propose to offer and we trust will be received in this case. I do not refer to the manner of proof such as the objection we encountered at the outset of this case to certain exhibits on the ground that the records on which they were based were not produced in the courtroom. I refer rather to the character of proof, its relevancy and its admissibility as distinguished from its competency. The findings of the master will show that we proved in that case the very things we are seeking here to prove by this exhibit. They will show that the condition of the property of the Southern Pacific Company throughout its lines is a very important consideration in determining whether long-train operation may be safely conducted in Arizona as we claim it is on other parts of the system. It is a question of comparability. We cannot compare Nevada with Arizona in a set of safety statistics very well unless the court knows what the physical [fol. 1501] property in Nevada consists of, what class of trains operate through there, what class of traffic, and so on and so on. We cannot try this case of course with the testimony of one witness; we have to build it up piece by piece just as was done in all of the cases. I may say also that the master received and the three-judge court approved of his findings in the original Arizona Train-Limit Case by adopting the master's findings in its findings, the same type of testimony concerning the operations of the system as a whole. Now, when we say that this act deprives the defendant of the use of its property and impairs the present usefulness of its facilities we don't refer to Arizona alone. We claim that it impairs the usefulness of our entire system's facilities, that freight may originate at any point on our system and be transported into or through Arizona and to the extent to which this act prevents us from transporting that freight efficiently and economically, to that extent pro tanto are our facilities impaired. We have written for a certified copy of the findings in the Nevada case. We respectfully submit that those findings which are signed by Circuit Judge Mathews, District Judges Loud-

erbach and Frank H. Norcross as of February 23, 1937, are [fol. 1502] as much a part of the opinion printed in the Federal supplement as though they had been reproduced in the decision therein. There should be no question about it. If the court refers to a document, it is necessary to go to the document to ascertain what the court had in mind, something that the court has frequently done. The Supreme Court of the United States is very prolific in its citations of standard authorities and it is not unusual for them to merely refer to the authority by name. I mean by standard authorities various Commissions and bodies, they refer to it by name and it is not unusual for a court considering the decision of the Supreme Court to go to that source of authority to find out to what the court referred. We will substitute a certified copy for this. This pamphlet, a copy of which I have handed the court and counsel, was prepared for distribution to the members of Congress and particularly to the members of the House Committee on Interstate and Foreign Commerce, as will be shown by its preface, but it is a reprint and barring typographical errors, a correct reprint of what will be seen on page 90 to be a certified copy of the findings and at the bottom of page 27 it will be seen that the court found, "In considering the [fol. 1503] Pacific lines of plaintiff, it appears that \$14,331,000 was expended for net additions and betterments from December 31, 1930, to December 31, 1935." This case was tried in 1935 and 1936. "The money so expended was allocated only to roadway and fixed structures." On the next page it is shown that a system showing was made there of the entire system and we submit at least as a precedent the action of the three judge court in approving these findings is highly significant of the fact that a proper regard for the very important and diverse issues that are made in this case would seem to require that we be permitted to make the same showing here that we made there.

This case has three primary divisions as far as the evidence is concerned. The first division is what we are about to conclude except for a couple of witnesses we may call after the holiday recess and that is the picture of the United States as a whole, of the principal railroads of the United States, what might be called a general economic picture. The second division relates to the economy and efficiency of defendant's operation and the handicaps which are



placed upon it by the Arizona law, the issues of burden on [fol. 1504] interstate commerce, interference with interstate commerce, impairment of defendant's facilities and extraterritorial operation of the law. The third general subdivision of the case is the question of whether the law is reasonable as an exercise of the police power of the state in the interests of the safety or health of persons or the safety of property and while the third subdivision may overlap the second to some extent in some of our testimony it is yet a distinct part of the case, and returning to that I may say that it is almost impossible to understand the safety testimony that we shall submit in this case, comparisons of operations on our lines with operations in Arizona, without a picture of the property on which these other operations have been carried and without the story of the continued development of that property for the purpose of enabling us to handle our traffic in as large units as may be possible, the nature and quality and time of presentation of the traffic and the condition of our power considered, so I respectfully submit that the entire exhibit is admissible on the theory I have endeavored to argue.

The Court: Do you care to be heard, Mr. Strouss?

[fol. 1505] Mr. Strouss: Only to say that as far as the train-limit case in Nevada is concerned, I have no desire or intention to argue the findings in that case. There is nothing in this to show what the status of the evidence was at the time this testimony was introduced there, there is nothing to show what objections were made to the evidence at that time. The mere fact that some other court may have improperly admitted evidence of this sort is no basis for the admission of it in this case. There is nothing to show here that there was even an objection made in Nevada to the introduction of the evidence there and certainly at this stage of the case there is nothing here that would lay the foundation for the reception of this evidence, nothing upon which this evidence would tend either from the standpoint of relevancy or materiality. The property that is invested in some other state, Louisiana, for example, it would be quite a stretch of the imagination to see any connection between the Arizona Train-Limit law and what property they own in Louisiana. So far as their lines in other states are concerned there is nothing here to show there is any similarity between the properties here and there.

Mr. Booth: That objection goes rather to the order of [fol. 1506] proof. As I say, we cannot introduce all our proof by one witness, but counsel overlooks the fact that our theory is that the entire system is a unit and when one part of the unit is impaired necessarily the operations of the entire unit are impaired. We report all of these lines as a unit to the Interstate Commerce Commission and the Interstate Commerce Commission does not recognize state boundaries or territorial boundaries. It orders the railroad to report all operations on this form A and all the operations on the statistical reports OS-A, and so on. May I also suggest that we have proceeded in this case on a definite theory and part of that theory is that we are entitled to make a system showing. We are endeavoring to make this system showing in as compact and brief and understandable a form as possible. If at the conclusion of the case the court decides that evidence as to other states is irrelevant, the court can disregard it and so state in its opinion, but without the evidence in the case we are simply deprived of foundation for the court finally to adopt our theory if it sees fit to adopt it. It is like trying a case on demurrer.

The Court: I don't think it is necessary to argue it further. The Court has admitted and I think properly the [fol. 1507] statistical data with reference to the operation of numerous other roads which was admitted upon the theory of similarity of operations which the court required be shown. Now, it does seem that certainly the defendant here should be permitted to show its operations as a whole. This exhibit merely seeks to break that down into the different states through which they operate, and the record may show the objection is overruled.

Mr. Strouss: May I say this further, your Honor. This is not going to a matter of operation, this is merely the investment in property. What it has to do with the operation of trains is another thing.

The Court: That is true.

Mr. Strouss: There is one thing I wanted to say, because it keeps popping up here continually, that is the Nevada and Arizona Train-Limit Law. I was not in the Nevada case. I was in the former Arizona Train-Limit Law case and I know in that case, while objections were made at the beginning, the master said from the beginning and continually that he was admitting all this leaving it to the court

to determine what should later be heard. I have the train [fol. 1508] script here, in which I can show repeated statements by the master to that effect and so far as the three-judge court is concerned, that was an ex parte matter.

Mr. Mason: There is only one other comment to be made. You cannot operate trains unless you have a roadbed on which to operate them and you cannot have a roadbed unless you keep it up and spend money as it wears out and improve it, and the purpose of this exhibit is to show what we have done in order to permit our operations to continue. It responds to an allegation in paragraph 3 (A), eliminating the parts which do not relate to ours, may be phrased as follows: "Railroad operating conditions, both on defendant's lines in Arizona; and elsewhere, and on railroads throughout the United States generally, differ substantially from the operating conditions which existed in 1912 when the Arizona Train Limit Law was passed, in that since 1912 and more especially since 1920 great improvements have been made in both road and equipment. The greater part of these improvements has taken place since 1920 and has been accomplished by the expenditure of large sums of money."

The Court: Well, the court has ruled on the matter. Go ahead.

[fol. 1509] Mr. Mason: Have you before you, Mr. Baker, an exhibit in one sheet entitled, "Statement Showing By Accounts Appraised Market Value of Land and Reproduction Cost New of Other Facilities as Shown in the I. C. C. 19A Valuation Reports as of Valuation Dates Adjusted for Additions, Betterments and Retirements, as Shown in Carriers' Reports to I. C. C. under Valuation Order 2, Yuma, Arizona, to El Paso, Texas, via Gila and Lordsburg; Tucson, Arizona, to El Paso, Texas, via Douglas; Wellton, Arizona, to Picacho, Arizona, via Phoenix?"

A. Yes, sir.

Q. Consisting of one sheet?

A. Yes, sir.

The Court: Before you proceed further with that, I wonder if this last exhibit No. 110, that was offered, the objection was made, the Court overruled the objection. The record may now show that the exhibit is admitted in evidence.

Mr. Mason: Now, as to the statement just referred to by title, may we have that marked No. 111 for identification?"

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 111 for identification.

[fol. 1510] Mr. Mason: Mr. Baker, was Exhibit 111 prepared from the same underlying documents as No. 110?

A. Yes, sir.

Q. But addressed particularly to these sections of line which are shown in the title?

A. Yes, sir, and it is subdivided to the accounts.

Q. And by referring to column C, you can find what the reproduction cost new valuation was as of December 31, 1923, for any particular item?

A. Yes, sir.

Q. And the columns B and E collectively will show the net additions and betterments by subtracting E from F?

A. Yes, sir. Column D is gross additions, and E is retirements. Those are facilities that taken out for replacement or abandonment to make room for new facilities, and under the accounting rules, and also under the rules of the Bureau of Valuation, we have to report the value of property retired as well as property added. That is, the property retired is predicated on a cost or estimated original cost, and those costs are based on the engineering reports [fol. 1511] and the record costs of additions and betterments subsequent to the valuation dates.

Q. When property is retired, does that become a deduction from the total investment shown?

A. That is a deduction from the investment and the records, yes.

Q. Then the figures in column F represent the figure in column C, plus the figures in column D, less the figures in column E?

A. Yes.

Q. Has this exhibit been compared against the underlying records?

A. Yes, sir.

Q. Will you say whether or not it is true and correct?

A. Yes, sir.

Mr. Mason: It is my understanding, Mr. Strouss, that your agreement as to the non-production of these underlying records goes to this and succeeding statements of the same character?

A. That is true, yes.

Mr. Mason: Have you any questions on the exhibit, Mr. Strouss?

Mr. Strouss: The figures in column E, are those the original costs, or original costs depreciated?

[fol. 1512] A. That is original cost, there is no depreciation in any of the figures on this exhibit.

Q. They are charged off at the original cost?

A. The same money as in the record, or estimated cost of what was in the record, as a rule we use the I. C. C. engineering reports as of valuation dates for any facilities that were in place as of that date which have subsequently been retired.

Q. This does include the Phoenix line?

A. Yes, sir.

The Court: But this covers, Mr. Baker, these figures represent, I should say, the matters therein stated covering the line from Yuma, Arizona, to El Paso, Texas?

A. Yes, sir.

Mr. Strouss: That is all the questions I have.

Mr. Mason: We offer the exhibit as defendant's exhibit 111.

Mr. Strouss: The same objection as to exhibit 110.

The Court: The objection is overruled. It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 111.")

[fol. 1513] Mr. Mason: Now, have you before you, Mr. Baker, a statement in one sheet bearing the same title as Nos. 110 and 111 except for the subtitle "Wellton, Arizona, to Picoacho, Arizona, via Phoenix?"

A. Yes, sir.

Q. Was this exhibit prepared in the same manner as the preceding exhibit, particularly 111?

A. Yes, sir, it is prepared from the same underlying record.



Q. And simply addressed to the main line from Wellton via Phoenix to Picacho?

A. It sets up that section separately, yes, sir.

Q. Has it been compared?

A. It has.

Q. Will you say whether or not it is true and correct?

A. Yes, sir, it is.

Q. The same explanation applies as applied to the preceding exhibit?

A. Yes, sir.

Mr. Mason: Have you any questions, Mr. Strouss?

Mr. Strouss: No.

Mr. Mason: We offer the statement in evidence as defendant's exhibit 112.

Mr. Strouss: I have no objection.

The Court: It may be admitted. There is no objection.

(The document referred to was received in evidence, and marked "Defendant's Exhibit No. 112.")

Mr. Mason: Will you refer to an exhibit of four sheets, Mr. Baker, similar in form as appears with respect to 112, and bearing on the first sheet in addition to the long title, the designation, "Yuma, Arizona, to El Paso, Texas, via Gila and Lordsburg, Arizona, New Mexico, Texas. Summary." Have you that before you?

A. Yes, sir.

Q. And the second sheet bears the designation, "Yuma, Arizona to El Paso, Texas via Gila and Lordsburg, Arizona?"

A. Yes, sir.

Q. The third sheet similarly relates to New Mexico?

A. Yes, sir.

Q. And refers to that section of the line between the Arizona-New Mexico line, I take it, and the New Mexico-Texas line?

A. Yes, sir.

[fol. 1515] Q. Via Lordsburg; and the fourth sheet refers to the Texas portion of the same line.

A. Yes, sir.

Mr. Mason: May we have this statement in four sheets marked "Defendant's Exhibit No. 113 for identification"?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 113 for identification.

Mr. Mason: Was exhibit No. 113 for identification prepared in the same manner, and from the same source as exhibits 111 and 112?

A. The same basic record and the same methods of compilation.

Q. You have on the first sheet shown the valuation information for the entire line from Yuma to El Paso via Gila and Lordsburg?

A. Yes, sir.

Q. And then broken it down by states on the succeeding three sheets?

A. Yes, sir.

Mr. Mason: Have you any questions, Mr. Strouss?

Mr. Strouss: No questions.

Mr. Mason: We offer the exhibit in evidence as Exhibit 113.

[fol. 1516] Mr. Strouss: The same objection as to Exhibit 110.

The Court: The objection is overruled. It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 113.")

Mr. Mason: Mr. Baker, will you refer to a statement of one sheet bearing a title similar to the preceding exhibits, and the subtitle, "Tucson, Arizona, to El Paso, Texas; via Douglas, Arizona—New Mexico—Texas. Summary," on the first sheet, and the designation of the several states, Arizona, New Mexico and Texas on the succeeding sheets?

The Court: Is that the road that was formerly known as the El Paso and Southwestern?

A. Yes, sir.

Mr. Mason: May we have this statement marked 114?

The Court: It may be marked.

The Clerk: Defendant's Exhibit 114 for identification.

Mr. Mason: Did you prepare this statement in the same fashion as No. 113?

A. Yes, sir.

Q. And from similar sources?

[fol. 1517] A. Yes, sir.

Q. You have shown the summary of the line from Tucson via Douglas to El Paso for the three states in which it lies on the first sheet?

A. Yes, sir.

Q. And then by states on the other three sheets?

A. Yes, sir.

Mr. Mason: Have you any questions, Mr. Strouss?

Mr. Strouss: No.

Mr. Mason: Has the exhibit been compared and checked?

A. It has.

Q. Will you state whether or not it is true and correct?

A. Yes, sir, I believe it is.

Mr. Mason: We offer the statement in evidence as defendant's Exhibit 114.

Mr. Strouss: The same objection as to Exhibit 110.

The Court: It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 114.")

Mr. Mason: I think that is all of the direct examination. [fol. 1518] The Court: We will be at recess at this time.

(Thereupon a short recess was taken, after which the witness J. B. Baker was recalled to the stand, and proceedings were resumed as follows:)

Mr. Mason: No further questions.

Cross-examination.

By Mr. Strouss:

Q. Mr. Baker, that I might a little better understand these exhibits, Column B of 110 represents the valuation of 1916 by the Interstate Commerce Commission, or under the supervision of the Interstate Commerce Commission, brought down to December 31, 1923; is that correct?

A. That is correct. Our reports to the Commission for additions, betterments and changes.

Q. In other words, what you did was to take the additions for the different years between 1916 and 1931 and the retirements to arrive at this value, just as you have taken additions between December 31, 1923, shown in column C, and the retirements after December 31, 1923, to December 31, 1931, shown in column D, to arrive at the total shown in column E?

[fol. 1519] A. Yes, sir, the same method was pursued.

The Court: Mr. Baker, do I understand that these valuations were made by you or representatives of the Southern Pacific Company, or by the experts of the Interstate Commerce Commission?

A. The valuations as of the valuation dates, which was generally on June 30, 1916, in some cases it was 1915, or June 30, 1917; was prepared by the Commission and the carriers were furnished a copy of it, both the facilities and the land reports.

Q. That is as shown in this first exhibit 410?

A. That is the basis. From that we have added; from those basic reports we have added the additions and betterments and taken out the retirements that we have reported to the Commission under the Commission's valuation order No. 3, which we report annually.

The Court: Go ahead, Mr. Strouss.

Mr. Strouss: Those additions and retirements are checked by the Interstate Commerce Commission also?

A. Yes, sir, they are checked by the examiners for the Bureau of Valuation.

Q. Now, your land values, that includes only land used [fol. 1520] as operative property?

A. Yes, sir, that is the carrier property, classified as carrier.

Q. Now, the values were taken as of June 30, 1916. What has been done with respect to values of land, operative land, since that time?

A. In these reports the land value was taken from the basic—from the original reports, and the lands acquired or the lands disposed of have been added to or retired from that original report. There has been no change in the value of the lands in these reports, that is, they haven't been revised to the current appraisals.

Q. The values remain the same as the original valuations in 1916?

A. Yes, in these reports they were not changed.

Q. Now, in the 1916 valuation, I believe you stated that there was a valuation based on reproduction new and a valuation on reproduction new less depreciation.

A. Yes, that is correct.

Q. Which is used here?

A. This is the reproduction new, based on price current for the period 1910 to 1914.

Q. Now, these temporary reports, Form 589, are the [fol. 1521] valuations there supervised by the Interstate Commerce Commission?

A. The 589?

Q. Yes.

A. Yes, sir, they call on us to furnish the 588, which is the quantity and cost report for additions and retirements, and if we are unable to complete that report, they would generally call for the 589, which is a money statement and which can be obtained from the record in less time than it requires to set up all of the quantities. We have recently furnished at the request of the Commission the money statements for the years 1937 and 1938 on the 589; that is a money by accounts by valuation sections.

Q. At any rate, it is the original cost?

A. Oh, yes.

Q. Of the additions, and the original cost of the retirements?

A. Yes, it is the cost money and is the same money, possibly subject to some minor adjustments, as will be shown on the 588 when completed, which includes quantities.

Q. Now, the valuations, as of December 31, 1923, do not include the E. P. & S. W. properties?

A. No, sir.

Q. When was the merger, do you know?

[fol. 1522] A. That was taken up in 1924. The year 1924 includes the E. P. & S. W.

Q. What about the Phoenix line?

A. The Phoenix line came in as an addition in 1926, that is, the portions of the Phoenix line that were constructed new.

Q. How does the addition of the E. P. & S. W. property, how is it shown on your exhibits here?

A. Well, that is included in the additions, subsequent to January 1, 1924.

Q. Now, exhibit No. 110—

The Witness (Interrupting): Just a moment. Allow me to correct that, please. That is set up on the same basis as the other lines, the engineering report, which was June 30, 1917, plus the additions and betterments, as recorded to December 31, 1923.

Q. In other words, you took the E. P. & S. W. valuation as fixed by the I. C. C.

A. Yes, sir.



Q. And the additions and retirements to bring it up to the time of acquisition by the Southern Pacific Company, to bring it up to 1923?

A. And it is handled in the pool and not as an addition, as of the date of acquisition. You see we have the original [fol. 1523] records for the El Paso and Southwestern, so far as the Commission reports are concerned.

Q. Would it be shown in column B of exhibit 110?

A. No—

Mr. Mason: Column B of exhibit 110, have you that exhibit before you?

A. Yes, it is in column B of 110.

Mr. Strouss: In other words, the properties for Arizona, New Mexico and Texas would include the parts of the E. P. & S. W. lines valued as of the date December 31, 1923?

A. Yes, sir.

Q. And the additions, then, would be included in C and retirements in D along with the other Southern Pacific property?

A. Yes, sir, it was included with the balance of the property on the same basis.

Q. This exhibit shows all operative properties of the Southern Pacific Company in the states indicated on the exhibit?

A. Yes, sir.

Q. And the next—

Mr. Mason: This was—I think we should make it clear, it includes only fixed equipment.

Mr. Strouss: Yes.

[fol. 1524] Mr. Mason: The title says it doesn't include rolling equipment.

A. No, rolling stock is not included.

Mr. Strouss: On exhibit 111, that is the so-called Gila Bend and the North Line—let's see—

Mr. Mason: I think, Mr. Strouss, it is the main lines, those three main lines, the North Line through Phoenix, the Central Line, if you like, through Gila and Lordsburg, and the South Line, the former E. P. & S. W.; is that correct?

Mr. Strouss: The North Line through Lordsburg?

Mr. Mason: Yes.

Mr. Strouss: In other words, it is all of your lines from Yuma to El Paso?

A. Yes, it is the Yuma to El Paso line, the original Southern Pacific line, the El Paso and Southwestern from Tucson to El Paso via Douglas, and the Wellton to Piacacho line, which included the new construction and part of the Arizona Eastern.

Q. This exhibit includes all of the lines between El Paso and Yuma?

A. Yes, sir.

Q. Then the next one takes only the Phoenix line?

[fol. 1525] A. Exhibit 113 is the Yuma to El Paso line via Gila and Lordsburg. Exhibit 112 is the Wellton to Piacacho via Phoenix.

Q. In other words, these last exhibits divide them up into separate lines?

A. Yes, sir.

Mr. Strouss: That is all.

Redirect examination.

By Mr. Mason:

Q. I want to have this clear in the record, Mr. Baker. The reproduction cost new as of 1916 or 1917, as the case may be, is a figure fixed or determined or reported by the Interstate Commerce Commission, is it not?

A. Yes, sir, that was put out in the engineering reports by the Commission.

Q. And it is brought down to date by showing the actual cost of facilities added, less the actual cost, as nearly as that can be obtained where an estimate is necessary, of facilities retired?

A. Yes, sir, that is true. It is the actual cost of facilities added and the actual cost or estimated original cost of facilities retired.

[fol. 1526] Q. Now, the showing on exhibit 110 includes branch lines as well as main lines of the properties described?

A. That is the total system properties, yes, sir.

Q. And the showing on exhibit 111, as I understand it, is not inclusive of any branch lines in the territory between Yuma and El Paso, but only the main lines indicated by the sub-head.

A. Just the lines indicated between the termini, as shown in the heading.

Q. The same is true as to each of the other exhibits down to and including the last one received, which is No. 114?

A. Yes, sir.

Q. They are main lines only?

A. Yes, sir.

Q. I think you made it clear, but if not, I should like to have it clear in the record that the valuation in the El Paso and Southwestern properties, which were in 1924 acquired by the Southern Pacific to the extent that they had been valued by the Commission and subsequently been added to, up to December 31, 1923, properties in column B in Arizona, New Mexico, and Texas on exhibit 110. I think that was [fol. 1527] your answer to Mr. Strouss?

A. That is correct. It is shown as an original property and not as an acquisition. It is set up on the engineering report, plus the additions and betterments along with the balance of the system properties between the valuation dates and December 31, 1923.

Q. And is the same true as to Arizona Eastern properties which were acquired by the Southern Pacific and merged about the same time?

A. Yes, the same is true of the Arizona Eastern.

Mr. Mason: I think that is all.

The Court: You may step aside.

Mr. Mason: We will call Mr. Masson.

[fol. 1528] L. J. Masson was called as a witness on behalf of the defendant and, being first duly sworn, testified as follows:

Direct examination.

By Mr. Mason:

Q. State your name to the reporter.

A. My name is L. J. Masson.

Q. Your residence?

A. I reside in Berkeley, California.

Q. What is your official position?

A. I am an assistant general auditor of the Southern Pacific Company, headquarters at San Francisco.

Q. As assistant general auditor you report directly to the general auditor of the company at San Francisco?

A. Yes, sir? I am under his immediate direction, supervision and direction.

Q. Does the jurisdiction of the office of the general auditor and of yourself as assistant general auditor extend to the entire Pacific lines of the Southern Pacific?

A. It does, yes, sir.

Q. How long have you occupied your present position?

A. Since August 1, 1933.

[fol. 1529] Q. What was your first experience—when was your first experience in railroad work?

A. I entered the employ of the Morgan's Louisiana and Texas Railroad and Steamship Company at New Orleans, Louisiana, on October 1, 1903. Since that time I have been employed in the accounting department of the Southern Pacific Company or one of its affiliated companies, except that between August 4, 1912, and February 13, 1913, I was employed as a general bookkeeper for the Missonri, Kansas and Texas Railroad Company in St. Louis, Missouri.

Q. Is the Morgan's Louisiana and Texas Railroad, or was it, rather, in 1903 and since an affiliate of the Southern Pacific?

A. Yes, it was a wholly-owned subsidiary of the Southern Pacific, operated independently at that time, but since merged with the Texas and New Orleans Railroad Company.

Q. And the Texas and New Orleans is what?

A. Is a wholly-owned subsidiary of the Southern Pacific, operated from El Paso east with an eastern terminus at New Orleans.

Q. And you have been engaged all of these 37 years in railroad accounting work?

A. Yes, sir, I have.

[fol. 1530] Q. You have become thoroughly familiar with the records and books kept in the accounting departments and the methods by which they are kept, particularly on the Southern Pacific Lines?

A. By progressive steps through the accounting organization in each of the offices of the accounting department, I have become familiar generally with the details and records of the accounting work of railroads, of the Southern Pacific especially.

Q. You are familiar with the Interstate Commerce Commission's classification of accounts and the orders issued by the Interstate Commerce Commission in connection with the accounts and reports of carriers?

A. Yes, sir.

Q. Have you appeared as a witness in proceedings before various commissions and courts in cases in which the Southern Pacific has been interested?

A. Yes, sir, I have.

Q. Have you prepared or had prepared under your direction certain exhibits for introduction in this case?

A. I have.

Q. I call your attention first to a statement bearing the title, "Southern Pacific Company—Pacific Lines—Operation [fol. 1531] ated Steam Mileage by Divisions and States as of December 31, 1939." Have you that statement before you?

A. Yes, sir.

Mr. Mason: May we have the statement marked as Defendant's Exhibit 115?

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 115 for Identification.

Mr. Mason: From what sources was Exhibit No. 115 for Identification prepared?

A. The source is indicated at the bottom of the exhibit. The mileage that is shown in this exhibit will also be found in the Annual Report of the company to the Interstate Commerce Commission and to the State of Arizona, as indicated in the footnote there. The details, however, are a little bit different; the totals agree with that which appear in the schedules of the Annual Reports referred to.

Q. Does the company make an annual report to the Arizona Corporation Commission along the same lines as the Annual Report, Form A, made to the Interstate Commerce Commission?

A. Yes, sir, except that there is an additional section in [fol. 1532] the report to include revenues, expenses and statistics applicable entirely to the State of Arizona.

Q. Then do I understand that the report is the counterpart of the report to the Interstate Commerce Commission as to system operations?

A. Yes.

Q. And includes a separate section devoted to Arizona operations?

A. It does.

Q. Is that report rendered annually?

A. Annually, yes, sir.



Q. In accordance with instructions of the Arizona Corporation Commission?

A. Yes, sir.

Q. Does the company retain a file copy of each of these annual reports to the Arizona Commission?

A. It does, in this way, the first part being an exact reproduction of our I. C. C. report, is not filled in; however, the state part is filled in for our record purposes.

Q. To fill in the first part would be merely a duplication?

A. A duplication, yes, sir.

Q. Of the report to the I. C. C.

A. Yes, sir.

Q. Does the company render reports to state commissions in other states?

A. It does.

Q. Similar to the reports rendered to the Arizona commission?

A. Yes, sir.

Q. But related, of course, to the operations in the several states.

A. True.

Q. Does each contain a duplicate of the Annual Report rendered to the Interstate Commerce Commission?

A. They do.

Q. Does the company retain counterpart copies of those annual reports to the several state commissions similar to the counterpart of the annual reports to the Arizona commission?

A. It does.

Q. Will you state the names of the several states to the commissions of which reports are rendered, as just testified to by you?

A. The Corporation Commission of Arizona—I refer to this simply to get the correct names—The Railroad Commission of California, The Public Service Commission of Nevada, The Corporation Commission of New Mexico, Public Utilities Commissioner of Oregon, Railroad Commission of Texas, Public Service Commission of Utah.

Q. Now, you state in the note at the foot of the exhibit 115 that the source is records of the company. To what records do you refer particularly?

A. I refer to our record that we maintain in the office of the mileage by divisions, which I hold in my hand now.

The information for this record originates on the divisions in the office of the division engineer, who reports any changes in mileage to the chief engineer, who in turn reports to us the changes in mileage, and those are recorded in this record by divisions and states for our reporting purposes.

Q. Is that a permanent record maintained in the office of the general auditor?

A. Yes, sir.

Q. And is it now available for use of opposing counsel if they desire?

A. If he cares to have it, it is available to him. (Addressing Mr. Strouss) Do you want it?

Mr. Strouss: I will take a look and see.

Q. Mr. Mason: Has the exhibit been compared against the original record to which you referred in your last preceding testimony?

A. Yes, sir.

Q. Will you state whether or not it is true and correct? [fo. 1535] A. It is true and correct.

Q. Now, there are certain designations on the exhibit which might perhaps be explained. Opposite the words "San Joaquin" in Column 4, where it appears twice, you have the initials "S. G." and "N. G." What is the significance of those words?

A. "S. G." means "Standard gauge." "N. G." means "Narrow gauge." It so happens that that particular division has narrow gauge railroad running from—it is on the east side of California there from Keeler to Benton.

Q. Is the same meaning to be attached to the same initials as they appear opposite the name "State of California" in the lower block?

A. Yes, sir.

Mr. Mason: We offer the statement in evidence as Defendant's Exhibit No. 115.

Mr. Strouss: No objection.

The Court: It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 115.")

Mr. Mason: Mr. Masson, were you present at the first day of the trial when the map, Exhibit No. 1, reproduced on the easel, was offered in evidence?

[fol. 1536] A. No, I wasn't.

Q. I call your attention to the reference on that map to the paired track mileage in Nevada Between Weso, Nevada, and Alazon, Nevada.

A. That part between the two arrows.

Q. Is that the mileage to which you refer in the footnote designated with the asterisk upon your exhibit No. 115?

A. Yes.

Q. Are there any other features of this exhibit, any particular mileages, to which you care to call attention here?

A. It might be of interest to call attention to the fact that the State of Arizona is the second in importance in the matter of main line first track mileage operated by the Pacific Lines, there being 743.53 miles of main line first track in Arizona out of a total of 5,147.96 miles operated by the system in all states. So far as branch line mileage is concerned, Arizona stands third in importance, there being 464.96 miles of branch lines in the state out of a total of 3,500.16 miles of branch line operated by the Pacific Lines in all states. Taking all tracks into consideration, that is, all main tracks, Column 8, and sidings, Column 9, [fol. 1537] the State of Arizona stands third in point of all tracks out of a total of 13,669.19 miles operated in all states by the Pacific Lines. That is shown in Column 10, the lower section of Column 10.

The Court: Well, Mr. Masson, so that I will get this straight, referring here to this Defendant's Exhibit No. 1, you classify this as a main line here from Wellton by way of Phoenix over to Picacho?

A. Yes, sir.

Q. And also from Picacho directly to Wellton?

A. Yes, sir.

Q. The same thing is true here, is it, of Tucson, the route running through Lordsburg to El Paso, and the route running through Douglas?

A. Yes, sir, that is true.

Q. Both of those are classed as main line?

A. That is true.

[fol. 1538] The Court: Another question, assuming that in certain of the areas mentioned by the Court a moment ago there should be a double tracking, is that counted in this column (2) as main-line tracking or is that a branch?

A. If it is a main-line it would be in Column 5 as an addi-

tional main track. You will notice Column 5 carries all such types of track.

Mr. Mason:

Q. Referring to Column 5, you can find from Column 5 the length of double or multiple track in any particular state or on any particular division by referring to the mileage of additional main line track?

A. That is true.

The Court: Where are the principal branch lines of the Southern Pacific in the State of Arizona? What do they consist of?

Mr. Mason: Do you mind if I lead the witness through these?—I know them pretty well.

The Court: No, go ahead.

Mr. Strauss: It is all right with me.

Mr. Mason:

Q. Will you refer first of all, Mr. Masson, to the Nogales branch?

A. Yes, that is one branch, from Tucson to Nogales.

Q. Then there is a branch from Fairbank to Tombstone, [fol. 1539] is there not, a short branch?

A. That is right, from Benson to Fairbank.

Q. There is one from Benson to a point just above Fairbank?

A. And there is the Christmas branch running from McQueen to Winkelman. There is the Erman to Christmas, that is all in the Christmas branch.

The Court: That entire road from Mesa to Magna and Winkelman is a branch line?

A. Yes.

The Court: And this one (indicating map)—

A. There is the so called Creamery branch from Tempe to Normal Junction.

Mr. Mason: That is a short line extending southward from Tempe.

The Court: And one running down the Gila Valley to Miami and Globe?

A. Yes, that is the Globe branch, Globe to Inspiration Junction.

Mr. Mason: Returns to the main line at Bowie.

A. Yes.

The Court: And the line running into Clifton?

A. Yes.

Mr. Mason: That is the Lordsburg-Clifton branch.

A. And there is the Litchfield Park and one to West [fol. 1540] Chandler from Tempe Junction.

The Court: Some of those are extremely short lines.

A. Very.

Mr. Mason: There is a branch from Fairbank to Patagonia which is a part of the Rio Grande division and the branch line from Lewis Springs to Fort Huachuca. Your Honor will remember when Mr. Sines introduced the exhibit he designated the branch lines as those indicated by the light solid line and the others as indicated by the heavy solid lines except where there was double track, in which event it was shown as a double line.

The Court: What would be this road down to Ajo?

Mr. Mason: That is a short line called the Tucson, Cornelia and Gila Bend.

The Court: It is owned by the Southern Pacific?

Mr. Mason: No, it is independent of us entirely.

The Court: I think you have answered the Court's question sufficiently and I see the examination of that map properly discloses the information wanted.

Mr. Mason: Your Honor will recall our understanding [fol. 1541] that Mr. Kiley would check with Mr. Strouss' representative and obtain the numbers of the trains by classes over and under 70 on the Bensenville Savanna, Illinois subdivision of the Milwaukee Railroad for the month of March, 1939, and I have been handed the memorandum check which shows that westward there were 93 trains of 70 cars and less; 97 trains of more than 70 cars. Eastward there were 141 trains of 70 cars and less and 38 trains of more than 70 cars.

The Court: I presume then that Mr. Kiley may be permanently excused?

Mr. Strouss: Yes.

The Court: Do you care to proceed further tonight?

Mr. Mason: We are about to proceed to another exhibit which will take quite a while and if it is agreeable to Your



Honor and opposing counsel it might be just as well to adjourn.

Mr. Strouss: I wonder if you are going to have any more train sheet before the recess?

Mr. Booth: No, we have two witnesses for tomorrow but the only exhibit dealing with the number of trains operated is based on the wheel reports which the witness has here with him. One is an operating witness and the other an [fol. 1542] accounting witness who will testify to standard operating statistical exhibits we have here and some other exhibits as well.

(Discussion off the record.)

The Witness: I understand that Mr. Strouss will not require these mileage records any more?

Mr. Strouss: That is right.

The Court: We will be at recess until tomorrow morning at ten o'clock.

(Thereupon at 4:00 p. m. December 12, 1940 the court stood at recess until 10:00 a. m. Friday, December 13, 1940.)

[fol. 1543] December 13, 1940, ten o'clock A. M.

All parties being represented as heretofore noted, proceedings were resumed as follows:

The Court: You may proceed.

Mr. Mason: Your Honor, we would like at this time to suspend the direct examination of Mr. Masson, and proceed with another witness.

The Court: Any objection?

Mr. Strouss: No objection.

Mr. Mason: We will call Mr. Beale as our next witness.

FRANK D. BEALE was called as a witness on behalf of the defendant and, being first duly sworn, testified as follows:

Direct examination.

By Mr. Mason:

Q. Will you state your name to the reporter, Mr. Beale?

A. Frank D. Beale.

Q. And your residence, Mr. Beale?

A. Cleveland, Ohio.

Q. What position, if any, do you hold with the Chesapeake and Ohio Railway?

A. I am assistant vice-president, assistant to the president [fol. 1544] of the Chesapeake and Ohio Railway Company.

Q. What has been your educational training and your service with the Chesapeake and Ohio?

A. I graduated in civil engineering at the University of Virginia in 1915. I entered the service of the Chesapeake and Ohio Railway in October, 1915, and have continued in the service of the company continuously except for a period of fifteen months, during which time I was in the United States Army in the World War.

Q. What was the first position you occupied with the Chesapeake and Ohio, and at what point?

A. The first position I had with the Chesapeake and Ohio was as section foreman at Newport News, Virginia.

The Court: Where is your residence, Mr. Beale?

A. Cleveland, Ohio.

Mr. Mason: Mr. Beale, as a means of identifying your subsequent service, perhaps it would be well to introduce a map of the Chesapeake and Ohio Railway System. Have you before you a map on one sheet entitled, "The Chesapeake and Ohio Railway Company," and so forth?

A. Yes, sir.

[fol. 1545] Mr. Strouss: May the objections heretofore made run to this witness's testimony?

Mr. Mason: The general objection to the testimony of witnesses, officials, of railroads other than the Southern Pacific?

Mr. Strouss: That is right.

Mr. Mason: Made on the second day of the trial in connection with the officers of the New York Central?

Mr. Strouss: That is right.

Mr. Mason: May we have this map marked for identification with the next number?

The Clerk: Defendant's Exhibit 116 for identification.

Mr. Mason: Mr. Beale, is the map, Exhibit No. 116 for identification, a reasonably accurate outline map of the lines of the Chesapeake and Ohio?

A. It is. It is not a scale drawing, but is a reasonably accurate outline map.

Q. And shows the states in which the railroad operates?

A. It does.

Q. And the significance of the heavy lines to be discussed later in your testimony or in that of the following witness?

[fol. 1546] A. It does.

Mr. Mason: Are there any questions, Mr. Strouss?

Mr. Strouss: No questions.

Mr. Mason: We offer the exhibit in evidence as Exhibit 116.

Mr. Strouss: The same objection.

The Court: The objection is overruled. It may be admitted in evidence.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 116.")

Mr. Mason: Now, with general reference to the map, Mr. Beale, will you state your experience and the positions you have occupied on the Chesapeake and Ohio System since 1915?

A. The first position was as assistant section-foreman at Newport News, Virginia. The next position was as assistant supervisor of track on the Rappahannock Division, which is between Richmond, Virginia, and Gladstone, Virginia. My next position was as division engineer at Clifton Forge, on the Clifton Forge Division, which extends from Charlottesville, Virginia, to Hinton, West Virginia, and from Gladstone, Virginia to Clinton Forge, Virginia, with [fol. 1547] the intersecting branches. My next position was as trainmaster at Strathmore, Virginia. My next position was as trainmaster of the territory between Clifton Forge and Hinton. My next position was as superintendent of the Richmond Division, which takes in all of the territory on the C and O east of Gladstone and east of Charlottesville, including the line into Washington. My next position was as assistant-general superintendent at Huntington, West Virginia, on the western general division of the C and O, which takes in all of the line west of Hinton, West Virginia, except that part between Cheviot, Ohio, and

Chicago. I occupied that position until April 1, 1940, when I moved to Cleveland in my present position.

Q. Are the executive general headquarters of the Chesapeake and Ohio Railway Company maintained at Cleveland?

A. The executive offices of the Chesapeake and Ohio are maintained at Cleveland.

Q. Does it also have a general office and operating headquarters at Richmond, Virginia?

A. The general office and the operating headquarters are at Richmond, Virginia.

Q. In your present position, does your jurisdiction extend to the entire system?

A. Yes, sir.

Q. What is the operated road mileage of the Chesapeake and Ohio as of the end of last year?

A. Three thousand, one hundred seventeen miles.

Q. Between what points do the main lines extend?

A. The main line extends from Phoebus, Virginia, on the east to Chicago, Illinois, on the west, with diverging lines to Washington, a diverging line to Toledo, a diverging line to Louisville, a diverging line to Elkhorn City—I will say in passing that word "Elkhorn" on this map should be "Elkhorn City"—and with a diverging line to Gilbert, and some other branches. This line is through the states of Virginia, West Virginia, Ohio, Kentucky, Illinois, Indiana, and goes into the District of Columbia.

Q. What is the principal commodity handled by the Chesapeake and Ohio?

A. Coal is the principal commodity handled by the Chesapeake and Ohio.

Q. What is the district in which the coal handled by your line principally originates?

A. The coal originates on the territory between Hinton, West Virginia, and Ashland, Kentucky. Very little of it [fol. 1549] originates on the main line; the major portion originating on the branch lines which are designated on this map.

Q. In what direction does the coal move after it reaches the main line?

A. The coal moves in both directions, but the major portion of the coal that is mined on the western end moves west.

and the coal that is mined on the eastern end, which is east of Deepwater, divides about half and half.

Q. Do you have a through haul on this coal to deepwater terminals at the Virginia Capes?

A. We have a terminal at Newport News, Virginia, and coal moves from all of our coal fields to Newport News and to connections at Richmond, Lynchburg, Charlottesville, and Washington.

Q. Now, as to your westbound movement of coal, is that again to your terminals at Chicago and Toledo and connections?

A. Yes; we have at Toledo a modern coal-dumping plant. We can and do dump coal at the rate of a hundred and some cars an hour very often. The coal plants turn a car over, dump a car every minute; we have three such machines.

Q. Is that coal being transferred to vessels for lake movement?

[fol. 1550] A. That is coal being transferred to vessels for movement toward other lake ports, particularly to the Lake Superior points in northern Michigan.

Q. Does your company handle other classes of traffic besides coal in any substantial volume?

A. Yes, we have ore that is brought down in lake boats to Toledo and transferred to cars; we handle ore that is brought into Newport News and transferred to cars. We handle a general connection business from our connections at Chicago, Cincinnati, Louisville, and those points mentioned on the east end of the railroad. We have connections with other lines at Eostoria and Columbus, and from them receive and deliver coal and freight of various kinds. We have in connection with the southern roads a through service from Elkhorn City through to Toledo for movement to Detroit of perishables.

[fol. 1551] Q. Are these perishables handled in refrigerator cars?

A. Usually.

Q. Do you have any substantial traffic in boxcar equipment in any of the traffic you have mentioned in your previous discussion?

A. Yes, sir.

Q. In what class of equipment is the coal handled?



A. Coal is handled in open top cars classed as hopper bottom gondolas and flat bottom gondolas.

Q. Are they standard cars used in interchange with other railroads?

A. Yes, sir.

Q. Do you have any other lading for these open top cars?

A. Yes, we move ore, gravel, crushed stone, sand, and in some of them move fabricated steel, steel plates, and any commodity that lends itself to being loaded by machinery into an open top car.

Q. Are these open top cars of wooden construction or part wood and steel or all steel construction?

A. All steel cars.

Q. Does the Chesapeake & Ohio have any wooden underframe or wooden freight equipment of any class?

[fol. 1552] A. Not in revenue service.

Q. You are familiar with the exhibit heretofore introduced showing the development of Southern Pacific boxcar equipment, exhibit No. 2?

A. I have it.

Q. Has the development of the boxcar equipment on the Chesapeake & Ohio proceeded along similar lines?

A. I have no direct knowledge of boxcars back of 1915. Since that time the development of boxcars on the Chesapeake & Ohio has paralleled that on this exhibit. We may have gotten some feature a year or so before this or a year or two afterwards in some cases.

Q. What is the standard of boxcar construction on the Chesapeake & Ohio now. I mean is it all steel or any steel underframe?

A. The present standard boxcar on the Chesapeake & Ohio Railroad is all-steel boxcars with in many cases wooden floors.

Q. Will you refer also to the exhibit showing construction of passenger train cars for the Southern Pacific, exhibit No. 4. Does the Chesapeake & Ohio operate passenger cars of its own ownership?

A. Yes, sir.

[fol. 1553] Q. Addressing yourself to the period subsequent to 1915, will you say whether or not the development of your passenger car equipment has been along the lines indicated by that exhibit?

A. It has, except that the Chesapeake & Ohio has no cars similar to those shown in the last two blocks which were bought by the Southern Pacific in 1937 and 1939 respectively.

Q. Does the Chesapeake & Ohio now operate any wooden passenger cars in revenue service?

A. No.

Q. Do you operate Pullman cars?

A. Yes, sir.

Q. You were present when Mr. Parke of the Pullman Company testified yesterday?

A. Yes, sir.

Q. And on the day before?

A. Yes, I heard Mr. Parke's testimony.

Q. Do you operate standard Pullman cars of the type described by him and shown upon his exhibit?

A. Yes.

Q. Will you refer, please, to defendant's exhibit No. 5 showing the chronology of freight locomotives and state whether the Chesapeake & Ohio has freight locomotives similar to those shown on the exhibit or has developed other [fol. 1554] designs for use in its freight service?

A. We have 2-6-0 type locomotives very similar to that shown on this exhibit; also 2-8-0 type very similar to that shown. We have 2-8-2 locomotives very similar to that shown and also have 2-8-2 locomotives of this type equipped with boosters. We have 2-10-2 locomotives very similar to the large 2-10-2 as shown on this exhibit; we have no 4-10-2 but we have a 2-10-4 with a tractive effort of 93,350 pounds without the booster and 108,625 pounds with the booster. We have what we call a "Mallet" type engine, a 2-6-6-2 which is a compound engine with 77,900 pounds tractive effort compound and our type H-7 which is a 2-8-2 with a tractive power of 108,550 pounds.

Q. That would correspond fairly to the articulated consolidation 4-8-8-2 shown here as having a tractive effort of 116,900, would it?

A. Yes. We have no engine as large as your engine which has 124,300 pounds tractive power.

Q. Referring to the exhibit of passenger locomotives, exhibit No. 6. Have you that exhibit at hand?

A. Yes, sir.

Q. Do you have locomotives especially designed or devoted to passenger service or used in freight and passenger [fol. 1555] service both corresponding to ~~any~~ of those shown on exhibit No. 6?

A. We have, with a tractive power very close to your 4-6-0s, engines of the 4-4-2 type and of the 2-6-0 type. We have Pacific type engines with 31,050 pounds tractive power and large Pacific type engines with 43,400 pounds tractive power and 46,900 pounds tractive power. We have Mountain type engines with 60,850 pounds tractive power. We have a 4-8-4 with 66,450 pounds tractive power. This engine is equipped with a booster and with the booster has a tractive effort of 80,800 pounds.

Q. Are your locomotives equipped with superheaters?

A. Generally.

Q. Feed water heaters?

A. Generally.

Q. What type of air compressor do they use?

A. I can't answer that question.

Q. Are they generally coal-burning locomotives?

A. All of our locomotives are but we have seven or eight gas electric and gas passenger cars which operate alone in passenger service.

Q. Are your locomotives used in main line freight and passenger service fired by hand or stoker fired?

[fol. 1556] A. Almost all of them are stoker-fired engines. Some of the very smallest Atlantic type are hand fired.

Q. The larger types indicated are all stoker fired?

A. All of the larger types are stoker-fired engines.

Q. Are you familiar with the device known as the "power reverse gear"?

A. In a general way that an operating man is.

Q. Will you say whether or not that device has been applied to your larger main line freight and passenger locomotives?

A. It has.

Q. Will you refer to a statement in one sheet entitled, "The Chesapeake & Ohio Railway Company. Freight Trains Operated between the Regular Freight Engine Terminals on Subdivisions Listed, Separated to Show Number of Trains Handling a Maximum Number of Cars (Including Caboose) as Indicated by the Groupings." Have you that statement before you?

A. I have.

Mr. Mason: May we have the statement marked for identification "Defendant's Exhibit No. 117"?

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 117 for identification [fol. 1557].

Mr. Mason:

Q. Mr. Beale, have you made frequent trips over the line in addition to the experience gained by you in the several positions you occupy?

A. I have.

Q. Is it part of your duty first as assistant general superintendent and now as assistant to the president and assistant vice-president to make such trips?

A. Yes.

Q. Have those trips included trips on the dynamometer car?

A. When I was trainmaster and superintendent and general superintendent I made a great number of trips on the dynamometer car.

Q. Did that include all of the lines other than the line from Cheviot to Chicago?

A. I have ridden the dynamometer car on all of the main line of the railroad except from Cheviot to Chicago and between Richmond and Gordonsville.

Q. With exhibit No. 116 before you and with reference to certain subdivisions shown on exhibit No. 117 for identification, will you describe briefly the line of the Chesapeake [fol. 1558] & Ohio commencing at Newport News and proceeding thence westward, stating the ruling grade, the signal equipment, the type of locomotive used, and the nature of the traffic, particularly freight traffic handled?

Mr. Strouss: Just a minute, may I ask a question?

The Court: Yes.

Mr. Strouss: With respect to the ruling grade, do you mean to testify you can ride on a dynamometer car and determine the percentage of grade?

A. No.

Q. How do you get that information?

A. From an engineer's profile.

Mr. Mason:

Q. Do you have the engineer's profiles with you?

A. I have.

Q. Are they available for the use of opposing counsel for cross-examination?

A. Yes.

Mr. Booth: Have you the employees' working timetables for the divisions as to which you are about to testify?

A. I have our employees' timetables for the entire Chesapeake & Ohio Railway Company.

Q. Are they available to counsel?

A. Yes.

[fol. 1559] Mr. Booth: I would state, Your Honor, that I would like to take over the examination, Mr. Mason is obliged to meet the general manager and would like to be excused for a few minutes.

The Court: You may be excused, Mr. Mason.

Mr. Booth: I think it will expedite the examination if Mr. Beale, without detailed questions from me, will take up each of the subdivisions shown on defendant's exhibit No. 117 for identification, identify it with the aid of defendant's exhibit No. 116, state the ruling grade, the class of power used, the signals employed, and what he knows of his own knowledge without reference to the exhibit No. 117 as to the general character of traffic handled and the length of the train units in which it is customarily handled. It will greatly expedite the examination if you can do that. Otherwise I will have to cut it up into a series of questions from the memorandum I have before me.

Mr. Strouss: I have no objection to that method of procedure but my running objection goes to this testimony.

The Court: You are not objecting to the multiplicity of the questions?

Mr. Strouss: No.

[fol. 1560] The Court: Go ahead.

A. The first subdivision shown on Exhibit No. 117 for Identification is the Peninsula Subdivision; it extends from Newport News, Virginia, to Fulton, Virginia. This subdivision is a double track line completely equipped with automatic signals. The locomotives generally used are 2-8-8-2, with over 108,000 pounds tractive power. The trains we handle consist of 160 loads or empties. The ruling



grade westbound is .57 per cent. The ruling grade eastbound is .63 per cent and is operated as a helper grade. The trains in this territory consist of coal and a varied assortment of freight moving to Newport News for export and for eastwise movement by boats. The westbound trains consist of empty coal cars and freight which has been received from boats at Newport News and from connections at Norfolk, which is across the bay from Newport News.

Q. West of Richmond, Virginia?

A. West of Richmond, Virginia, we have two lines extending to Clifton Forge. The old line extends through Gordonsville and Charlottesville. The trains moving on that line are not included on Defendant's Exhibit No. 117 for identification. That line is primarily a passenger line, [fol. 1561] the grades being about one per cent on the line between Richmond and Charlottesville. Between Charlottesville and Clifton Forge the line crosses the Blue Ridge Mountains and the North Mountains with ruling grades of about one and one-half per cent.

Q. Is that the line that George Washington laid out?

A. No, sir, that is not the line that George Washington laid out.

Q. Which is the line that George Washington laid out?

A. The other line which passes through Strathmore, Gladstone, and Lynchburg toward Clifton Forge is laid on the tow path of the James River and the Kanawha Canal, which canal was the successor to an old canal company which was originally incorporated with George Washington as president, to transport freight between the East and the West. That line has a descending grade or level grade continuously from Clifton Forge to Richmond, no adverse grades against the eastbound movement. The line is single track with some short stretches of double track. It is operated as a manual block operation with a few short stretches of automatic signal. Trains of 160 cars are regularly handled in both directions on this territory. The eastern half of this line which extends from Gladstone to Fulton is the Roanoke subdivision as shown in column 3 on exhibit No. 117 for identification. The line from Gladstone to Clifton Forge is the James River subdivision shown in column 4 of the same exhibit. The engines used in this territory are generally Mikado engines, with a tractive power of 67,700 pounds. Westward from

Clifton Forge towards Cincinnati, Ohio, the line is double track and completely equipped with automatic signal. In the section between Barboursville and Linneville there is some third and fourth main track. The line between Clifton Forge, Virginia, and Hinton, West Virginia, is known as the Allegheny subdivision and is the subdivision shown in column 5 of the exhibit. This subdivision crosses the Allegheny Mountains at a maximum elevation of approximately 2,080 feet. The ruling grade westbound is 1.14 per cent. The ruling grade eastbound is .57 per cent. This territory is operated with the use of helpers and the engines used are 2-8-8-2 type with a tractive power of 108,550 pounds. Trains of 135 to 140 loads are regularly operated eastbound and trains of 160 empties are regularly operated westbound.

[fol. 1363] Q. Let me ask you here, if these trains of loads of 100 cars and upwards that you have been talking about, is merchandise contained in boxcars regularly operated in connection with the loads of coal when and as the traffic demands are justified?

A. They are. We have assigned schedules to meet our service requirements and when the boxcars to be moved in those trains are not sufficient to load the locomotives we handle coal in those trains. That is true all the way to Newport News from Hinton.

[fol. 1564] Q. Now, will you testify regarding the New River Subdivision?

A. The territory from Hinton, West Virginia to Handley, West Virginia, is known as the New River Subdivision. This subdivision is in the valley of New River, and the Great Kanawha river and is generally descending from Hinton to Handley. Eastbound the ruling grade is .4 per cent. 2-8-8-2 locomotives, with a tractive effort of 108,550 pounds are used in this territory.

Q. On coal trains?

A. On coal trains, and these engines are also sometimes used on other trains, but usually the other trains are handled with a Mikado-type engine with a tractive effort of 67,500.

Q. Is that subdivision shown on this exhibit 117 for identification?

A. It is not. The next subdivision which extends from Handley, West Virginia to Russell, Kentucky, is known as the Kanawha Subdivision. The ruling grade on this sub-

division is 3 per cent in both directions. This grade is operated as a helper grade. The engines used generally in this territory are Mallet-type engines, with tractive power of 77,900 pounds compound and 98,300 simple, and [fol. 1565] Mikado-type engines with a tractive power of 67,700 pounds. Trains of 140 loads or 160 empties are regularly handled on this territory.

Q. Is that shown on Exhibit 117?

X. That is not shown on 117.

Q. What is the Cincinnati Division?

A. The Cincinnati Division, which is shown on 117, is the line extending from Russell, Kentucky, to Stevens, Kentucky. This line lies in the valley of the Ohio River and is generally descending from Russell to Stevens. The engines used in this territory are Mikado-type engines with a tractive power of 67,700. Trains of 160 empties or 150 loads are regularly handled westbound, and trains of 125 loads and 160 empties are regularly handled eastbound. The ruling grade against eastbound movement is .23 per cent. Diverging from the main line at Limeville, Kentucky, and extending to Parsons, Ohio, is the subdivision known as the Northern Subdivision, which subdivision is shown in column 7 of exhibit 117. This subdivision has a ruling grade of .5 westbound, which is operated as a helper grade. Extending from Parsons to Wallbridge is a division known as the Toledo Division, which is that shown in column 8 of exhibit 117. This subdivision has a ruling grade westbound [fol. 1566] of .5 per cent, which is operated as a helper grade. The entire line between Limeville and Toledo is equipped with automatic signals. Russell is the eastern terminal for Northern Subdivision trains. These trains operate over the Cincinnati Division between Russell and Limeville, and thence over the Northern Division to Parsons, and thence over the Toledo Subdivision to Wallbridge. The engines used on these two territories are 2-4-4 type locomotives, with a tractive power of 108,625 pounds with booster, and 95,350 pounds without booster. Trains of 160 cars are regularly handled in both directions on these two subdivisions.

Q. The Northern Subdivision and the Hocking Division, of which the Toledo Subdivision is the principal part, are among the subdivisions shown on exhibit 117 for identification?

A. The Northern Subdivision is among the divisions shown on Exhibit 117, and the Toledo division is shown on Exhibit 117 for identification. The Exhibit 117 does not include that part of the Hocking Division which is south and east of Parsons, Ohio.

Q. Now, there are some other subdivisions, three or four, that are not included on exhibit 117, but which will be included in the mass of statistics and will be introduced by a succeeding witness from your line. Will you describe those?

A. The Chicago Subdivision extends from Cheviot, Ohio, to Chicago, Illinois. This is a single track manual block operation. The ruling grades are about 1.4 per cent. Traffic is not heavy on this line. 2-8-2 type locomotives with tractive power of 63,450 pounds without booster.

Q. Are you referring to your motive power records now?

A. Yes, sir. I know with the booster of that engine there is approximately 12,000 pounds added power, but I wanted to see exactly what it is. The tractive power with booster, 74,700 pounds.

Q. Now, on that line is it the practice to handle the trains of substantially over a hundred cars that you have been describing?

A. On that line the passing tracks will not permit the handling of trains of substantially over a hundred cars. We handle trains of eighty cars on that line.

Q. The average train would be less than seventy, would it?

A. Very much.

Q. Is this a district of light traffic?

[fol. 1568] A. Comparatively speaking, compared to these others we have been talking about.

Q. What is the Logan Subdivision?

A. The line diverging from the Kanawha Subdivision at Barboursville, and extending to Gilbert is the Logan Subdivision. This is a double track line, with one short piece of single track, is equipped with automatic signals. 2-6-2 type locomotives with a tractive effort of 67,900 pounds compound, and 98,300 pounds simple are generally used.

Q. Will you check that? You said 67,900.

A. 77,900, if I said sixty seven.

Q. What is the ruling grade?

A. The ruling grade against eastward movement is .55 per cent; the ruling grade against westbound movement is .18 per cent. Trains of 150 loads and 160 empties are regularly handled on this territory.

Q. Is that Logan Subdivision shown on this exhibit?

A. It is not.

Q. What as to the Big Sandy Subdivision?

A. Diverging from the Kanawha Subdivision just east of Ashland, Kentucky, and extending to Elkhorn City is the Big Sandy Subdivision. This is a single-track line with [fol. 1569] a few short stretches of double track. It is operated as a manual block operation. Generally, the line lies in the valley of the Big Sandy river and is descending from Elkhorn City toward the main line, although there are some adverse grades. 2-6-6-2 type locomotives, with tractive power of 77,900 pounds compound, and 98,300 pounds simple, are generally used. Trains of 125 loads and 160 empties are regularly handled.

Q. What about the line from Ashton through Lexington, Kentucky to Louisville, Kentucky?

A. I would like to add a little to this.

Mr. Booth: Very well.

The Witness (Continuing). This is the line—I am speaking now of the line from Elkhorn City to the main line—is the line which connects with the U. C. & O. Railway at Elkhorn City, and is the line over which we have a perishable movement from the south to the cities in Northern Ohio, and in connection with the Pere Marquette to Detroit.

The Court. We will take our morning recess.

(Thereupon, a short recess was taken, after which the witness was recalled to the stand, and proceedings were resumed as follows:)

[fol. 1570] Mr. Booth: Mr. Beale, have you completed the description of the principal subdivisions? I believe, however, that I asked you about the line from Louisville, Kentucky.

A. The line that diverges from the main line at Ashland and extending to Lexington is known as the Lexington Subdivision, and that between Lexington and Louisville is known as the Louisville Subdivision. The traffic on these two subdivisions is comparatively light. There is a grade of 2.67 per cent on the Lexington Subdivision, which is op-



erated as a helper grade. The trains on this territory are usually short, although trains in excess of seventy cars are operated.

Q. Do the divisions and subdivisions you have described constitute the major portion of your lines?

A. They constitute the major portion of our lines.

Q. As to the freight tonnage handled, what would you say as to the percentage of the freight tonnage on these subdivisions you have described with relation to the total freight tonnage of the entire system?

A. More than ninety per cent.

Q. Referring to defendant's exhibit 117 for identification [fol. 157E] tion, irrespective of the exhibit itself, what have you to say, from your general knowledge of the railroad and its traffic, as to the representative character of the showing for the four weeks shown on that exhibit of the average length of freight trains operated between the regular freight engine terminals on the subdivisions shown on that exhibit?

Mr. Strauss: I think he has already testified to that division by division.

The Court: If there is anything additional the witness cares to add, he may do so.

Mr. Booth: Simply laying the foundation for the exhibit as a representative exhibit.

A. The figures on this exhibit conform to the ideas I had as to what they would be.

Q. Did you select the periods as shown on this exhibit?

A. I selected the territories. I didn't select the periods.

Q. What have you to say as to the general character of the volume of traffic during the month of June, 1939, as related to the volume during the rest of the year, light, heavy or medium?

A. June on the east end of the railroad, is a little lighter [fol. 1572] than medium. On the line toward Toledo, June is medium.

Q. What is the middle of October, two weeks ending October 24th, what would that represent in volume of traffic?

A. That represents a period eastbound that was heavier than June, and to Toledo also a period a little heavier than June.

Q. When is your lightest coal movement on your system, all parts of the system considered?

A. Our lightest coal movement is during Christmas week.

Q. I mean, for periods. Take a month, for instance.

A. That varies a great deal from year to year. There are some years that December will be our lightest period; other years that May will be the lightest period.

Q. What about 1939, from your observation of the traffic?

A. In 1939 we had comparatively light business through the first seven months. It wasn't until somewhat later in the year that we got into our really heavy business in 1939. We also, in 1939, had an interruption in movement from a strike of coal miners in April and May.

[fol. 1573] Q. Can you say whether or not the four weeks shown on this defendant's exhibit No. 117 is fairly representative of the train-length movement on the subdivisions shown on the exhibit?

A. From my knowledge of these subdivisions, yes.

Q. And are these subdivisions fairly representative of the character and volume of traffic handled on your system as a whole?

Mr. Strouss: Now, if the Court please, I think he has testified to that by divisions; now, to make a blanket statement, when his testimony is that some of these divisions are light-traffic divisions, operating with predominantly short trains—

Mr. Booth: I will withdraw the question.

Q. Where is Limeville, Kentucky, located with reference to your map, defendant's exhibit 116?

A. Limeville, Kentucky is shown on the map and is between Russell and Stevens.

Q. On what subdivision, shown on Exhibit 117?

A. Limeville is on the Cincinnati Division on 117, and is the junction point of the Cincinnati Division of the Northern Subdivision.

Q. Is it on one of your primary main lines?

[fol. 1574] A. It is on one of our primary main lines.

Mr. Booth: I have handed the clerk a photograph, which I ask to have marked. Defendant's Exhibit 118 for Identification.

The Court: It may be marked.

The Clerk: Defendant's Exhibit 118 for identification.

Mr. Booth: Mr. Beale, were you present when this photograph was taken, defendant's exhibit 118?

A. Yes, sir.

Q. Was it taken at your direction?

A. Yes, sir.

Q. And by whom was it taken?

A. It was taken by Mr. Thomas, a photographer at Huntington, West Virginia.

Q. Did you take him into Limeville for the purpose of taking a photograph of a typical coal train of 160 cars?

A. I did.

Q. Are you in this photograph? Are you the gentleman standing with his hands in his hip pockets in the foreground just immediately back of the automobile?

A. I am.

Q. In which direction is the train moving?

[fol. 1575] A. This train was moving in a westerly direction, enroute from Russell, Kentucky, to Parsons, Ohio.

Q. Was it standing still at the time the photograph was taken?

A. It was.

Q. Did you cause it to be halted for the purpose of taking the photograph?

A. I did.

Q. Was that train made up for the purposes of the photograph, or was it a freight train in regular operation in commercial freight?

A. It was a freight train in regular operation in commercial service.

Q. Is that freight train typical of the 160-car coal trains about which you have testified as being regularly operated on a number of subdivisions?

A. It is.

[fol. 1576] Q. Have you the wheel report for this train?

A. I have a car list of this train which I made myself.

Q. Was there more than one locomotive hauling this train in regular commercial service?

A. There was only one locomotive to haul this train.

Q. And that is shown in the photograph?

A. Yes, sir.

Q. What type of locomotive?

A. Engine No. 3018 which we class as our T-1 type of locomotive and has a tractive power of 93,350 pounds without booster and 108,625 pounds with booster, a 2-10-4 type of locomotive.

Q. Are all of the cars in the train of Chesapeake & Ohio ownership?

A. No.

Q. You are looking at your copy that you made at the time?

A. I am looking at the notes I made of the consist of the train myself. It had four Virginian Railway cars in it, four private line cars that were stenciled N. R. B. X.

Q. What does that stand for?

A. It stands for New River Pocohontas Coal Company. [fol. 1577] Q. Does this train have a caboose on it?

A. Yes, sir.

Q. What type or types of gondola cars appear in this photograph?

A. There are two general types of coal cars in this photograph, hopper bottom cars and flat bottom cars.

Q. Can the hopper bottom cars be unloaded from the bottom?

A. The hopper bottom cars can be unloaded from the bottom.

Q. What about the flat bottom cars?

A. Some of them can be and some of them can't be unloaded from the bottom.

The Court: These cars in this picture appear to be loaded.

A. All of these cars had a lading of coal. That train had a tonnage of something over 12,000 tons, about 12,400 gross tons.

Mr. Booth: Q. That included cars and contents?

A. Yes, sir.

The Court: How many cars were in the train?

A. 160.

Mr. Booth: Are these coal cars loaded mechanically or by manual labor?

A. I can tell you generally how coal is loaded in coal [fol. 1578] cars.

Q. You don't know about these particular cars?

A. I can say generally that coal is produced underground in the mine, loaded into mine cars, and transported to what is known as the coal "tipple" and from the tipple it moves by gravity into the coal cars. These coal tipples usually are arranged so that they grade the coal and you load coal

of one grade on one track and coal of another grade on another and so forth but it is mechanical in the sense you mentioned:

Q. How are they unloaded?

A. That depends entirely on the unloading facilities at the point where they are unloaded. In some cases they are unloaded by hand; in other cases, by machinery. If they are unloaded by the Chesapeake & Ohio Railway Company, at either Toledo or Newport News, they will run up on a coal dumper, a clamp comes down over the top of the car to hold it attached to the track, and track, car, and all are turned over and the coal dumped into a pan with a chute to deliver the coal to the ship so that in that operation it makes no difference whether it is a hopper bottom car or a car with a closed bottom.

Q. Was this photograph made by a single exposure at [fol. 1579] one time or is it a series of separate photographs?

A. This photograph was made with a single exposure of a rotating camera which I suppose is a panoramic camera. It rotated through something over two hundred degrees in taking this picture.

Q. Does this photograph correctly represent the train as you yourself saw it at the time?

A. It does.

Mr. Booth: We offer in evidence the photograph as defendant's exhibit No. 118.

Mr. Strouss: Same objection.

The Court: Objection overruled, it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 118.")

Mr. Booth: Q. What does the bridge shown at the extreme right of the photograph cross?

A. That is the bridge across the Ohio River which at that point is the state line between Kentucky and Ohio.

Q. Then the train is standing just south of the river?

A. Yes, sir, in Kentucky.

Q. This train did not differ, did it, in any way from the usual and ordinary solid coal train of 160 cars which you referred to in your testimony?

[fol. 1580] A. It did not.



Q. Thoroughly typical of that type of train?

A. It is.

Q. I am handing to the clerk for identification as defendant's exhibit No. 119 and ask that it be so marked, a single sheet headed, "The Chesapeake and Ohio Railway Company, Maximum Number of Cars Handled in Various Main Line Passenger Train, Total for Months of January, April, July and October, 1939." Have you that before you?

A. Yes, sir.

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 119 for identification.

Mr. Booth: I will ask you first what is the principal through movement of passenger trains on your line?

A. The principal through movement is from Washington, D. C., between Washington, D. C., and Cincinnati, Ohio.

Q. With connecting trains?

A. With connecting trains serving the intersecting lines connecting with the main line at Charlottesville and serving Richmond and Newport News and connecting with the main line at Ashland and serving Lexington and Louisville, [fol. 1581] connecting with the main line at Limeville and serving Columbus and Toledo.

Q. How many through passenger trains does the Chesapeake and Ohio regularly operate in each direction between Washington and Cincinnati?

A. Three in each direction, a total of six trains each day.

Q. Do you know from your own observation whether frequently and as traffic and occasion requires more than 14 cars are operated in those trains?

A. I do.

Q. Do you ride those trains frequently?

A. Yes.

Q. And observe them?

A. Yes, sir.

Q. This exhibit which will be further testified to by a succeeding witness represents the totals for the months of January, April, July, and October. What have you to say as to the representative character of those months with respect to the operation of the trains named on the exhibit?

A. It is representative of the operation of those trains. I would say at the time this exhibit covers I was located at

Huntington, West Virginia, and as assistant general super-  
[fol. 1582] intendent had under the general superintendent  
direction of the movement over those trains from Hinton,  
West Virginia, to Cincinnati, Ohio.

Q. How far are the locomotives run on the operation of  
those trains?

A. The locomotive runs on these trains are from Wash-  
ington to Charlottesville; Charlottesville to Hinton and  
Hinton to Cincinnati and in the return direction generally  
the same runs in the opposite way.

Q. About what length of run?

A. The run from Charlottesville to Hinton is 176 miles;  
the run from Hinton to Cincinnati is about 308 miles.

Q. Did you hear the testimony of Mr. Parke, the chief en-  
gineer of the Pullman Company, given in this case?

A. Yes, sir.

Q. To what extent does your company utilize the standard  
Pullman car or conventional Pullman car, as Mr. Parke  
called it, in the operation of the passenger trains?

Mr. Strauss: I think he has already testified to that.

Mr. Booth: Very well.

Q. Does your company promulgate and cause to be ob-  
[fol. 1583] served rules for the guidance of its train and en-  
gine men?

A. It does.

Q. Is that published in book form convenient for carrying  
in your pocket?

A. Yes, I have a copy in my hand.

Q. Are you familiar with the code of operating rules  
called the "Association of American Railways Code"?

A. Yes, sir.

Q. Except for local situations peculiar to your own rail-  
road, does this book of rules which you have there corre-  
spond closely to the A. A. R. code?

A. It does; it is issued in accordance with the standard  
code and conforms very closely thereto.

Mr. Booth: We tender counsel for examination and peru-  
sal the book of rules together with the profiles referred to by  
the witness and the employees' working timetables; also the  
record showing in detail the construction of locomotives and  
other information pertaining thereto which the witness used

on the witness stand. Do you want the consist of that 160-car train?

Mr. Strouss: Yes.

Mr. Booth: What are the length of runs of the freight [fol. 1584] locomotives, just give us some typical example?

A. Usually they are short but we have some runs, from Clifton Forge to Richmond, 233 miles; from Russell, Kentucky, to Hinton, West Virginia, about 165 miles; from Russell, Kentucky, to Wheelbridge, 235 miles.

Q. Does your equipment conform to the interchange rules of the Association of American Railroads?

A. Yes.

Q. Do you regularly interchange equipment on your road with other roads and equipment of other roads, speaking of freight equipment now, with your road?

A. We do.

Q. Through the junction point which you mentioned earlier in your testimony?

A. We have junction points at Chicago—

Mr. Booth: (Interrupting) I think you gave that list of junction points, Mr. Beale, didn't you?

A. Not completely.

Q. Mention the principal ones.

A. Cincinnati, Chicago, Louisville, Lexington, Toledo, Fostoria, Marion, Columbus, Elkhorn City, Gilbert, Deep- [fol. 1585] water, Charleston, Lynchburg, Charlottesville, Washington, Richmond, Norfolk.

Q. On this map, defendant's exhibit No. 116, I see a number of branch lines running to the south from the main line in the main line territory beginning at Huntington, West Virginia, and ending at Hinton. Do these lines penetrate a coal-producing territory?

A. They do. The first one of those was the one we described as the Logan subdivision. The others have not been described but they are branches on which coal originates.

Q. What is the general character of the freight movement on those lines expressed in number of cars in a train?

A. It varies a great deal, depending on the amount of business there is available and the facilities for handling it. On some of them we handle 100 or more loads, handle 160 empties. On others the train is much shorter.

Q. Do you handle freight other than coal in trains of over 140 cars?

A. Yes.

Q. What character of freight?

A. All the general kinds of freight that we have to handle, which would be manufactured products, products of agriculture, [fol. 1586] perishables, road materials, anything that we have to handle and we handle a diversified freight.

Mr. Booth: I think that is all. Do you desire to defer cross-examination?

Mr. Strauss: Yes, I prefer to defer it.

(Witness temporarily excused.)

LOCKE S. WILBUR was called as a witness in behalf of the defendant and being first duly sworn testified as follows:

Direct examination.

By Mr. Booth:

Q. Will you state your name to the reporter?

A. Locke S. Wilbur.

Q. Where do you reside?

A. Richmond, Virginia.

Q. Are you employed in the general offices of the Chesapeake and Ohio Railway Company?

A. Yes, sir.

Q. At what point?

A. Richmond, Virginia.

Q. In what capacity?

A. I am chief clerk of the statistical division and in that capacity report direct to our vice-president and general [fol. 1587] manager who is in full charge of the operations of the Chesapeake and Ohio Railway at Richmond, Virginia, with headquarters at Richmond.

Q. You are attached to the operating department and not to the accounting department?

A. Yes, sir, the operating department, not the accounting.

Q. Do you have full access to the books and records of the accounting department as well as your own department?

A. I do.

Q. Are you familiar with the accounting methods and practices of your company particularly as they relate to the

movement of trains, recording of statistics relating to train movements, the reporting of accidents, and the making of all classes of reports to the Interstate Commerce Commission?

A. Yes, sir.

Q. Do you have access to all of those records?

A. I do.

Q. When did you enter the service of the Chesapeake and Ohio?

A. In August, 1922.

Q. As what?

A. Chief clerk in the maintenance of way department and [fol. 1588] in June, 1924, became chief clerk of the statistical division. In September, 1933, I was still chief clerk of the statistical division but from that time on reported direct to the then general manager and later this title was changed to vice-president and general manager.

Q. Do you make and direct the making of special statistical studies for the information and guidance of the officials of the company and for presentation before courts and commissions?

A. I do.

Q. You have testified before courts and commissions in support of such studies?

A. I have.

Q. When and where and in what capacity did you first enter the railway service?

A. I entered railway service with the Cleveland, Cincinnati, Chicago and St. Louis Railway as an accountant in the maintenance of way department. In 1913 I became chief clerk of the valuation department and in 1920 chief clerk in the executive offices. I remained in that capacity until I went with the Chesapeake and Ohio Railway in August, 1922.

[fol. 1589] Q. You speak of the valuation department. Was that the department having to do with the valuation of the properties of the C. C. & St. L. Railway required by the valuations sections of the Interstate Commerce Act?

A. Yes, sir, the valuation of that property ordered by the Interstate Commerce Commission.

Q. Have you prepared a number of exhibits for the purpose of testifying to them in the course of your testimony in this case?

A. Yes, sir.



Q. Now, in preparing those exhibits, what regular practice did you follow as to the incorporations, the figures for which you have included in the exhibits with respect—I will be a little more definite—with respect to the Chesapeake & Ohio Railway proper and the Hocking Valley Railway Company?

A. These exhibits, some of which go back to 1922, and others to 1924, all include the Hocking Valley Railway. The Hocking Valley Railway formerly operated 348 miles of railway, and reported separately to the Interstate Commerce Commission until the Hocking Valley Railway was taken over by the Chesapeake & Ohio Railway, effective as of May 1, 1930. Due to this property operating such extent [fol. 1590] sive mileage, we have always made a practice in preparing our statistics and exhibits for our own purposes, as well as all others, and for proper comparisons, have included the Hocking Valley in order to make the road, except for and excluding minor changes in mileage, comparable for the entire period.

Q. Look at defendant's exhibit 116, the map testified to by Mr. Beale, and state where the Hocking Valley lines are located?

A. The Hocking Valley lines started at approximately what is shown here as Columbus, it is just outside of Columbus, and extended to Toledo. Then, from Columbus again down to Parsons, and extended to Athens and Pomeroy.

Q. That was a subsidiary company of the Chesapeake & Ohio prior to the time it was merged with the Chesapeake & Ohio?

A. Yes, sir.

Q. But as it was separately operated, it was required to report separately to the Interstate Commerce Commission?

A. Yes, sir.

Q. Did it file separate OS-A and OS-E reports?

A. It did.

[fol. 1591] Q. And was a Class I railroad?

A. Class I railroad, yes.

Mr. Booth: I have handed the clerk, and I ask that there be marked Defendant's Exhibit 120 for identification, a sheet headed, "The Chesapeake and Ohio Railway Company (Includes Hocking Valley Railway for entire period) Freight Operating and Freight Transportation Expenses Related to Traffic Calendar Years 1922 to 1932, Inclusive."

Q. I ask you, Mr. Wilbur, if you have that sheet before you?

A. I have.

The Court: It may be marked for identification.

The Clerk: Defendant's Exhibit 120 for identification.

Mr. Booth: Was this prepared by you?

A. Yes, sir.

Q. From what source or sources did you take the figures contained in the columns B, C, and D, opposite the years 1939 to 1922, inclusive?

A. The entire information was taken from the annual reports to the Interstate Commerce Commission, for which purpose I used the office files of our general auditor, which [fol. 1592] are the official office copies of the report as rendered to the Interstate Commerce Commission.

Q. Did you use those reports for both the Chesapeake and Ohio and the Hocking Valley?

A. I did.

Q. And have you those here in the courtroom?

A. Yes, sir.

Q. About how many of them are there?

A. Thirty-one, I think, due to the fact that there are two reports for some years, for 1922 to 1929; and one for a four-months' period in 1930 for the Hocking.

Q. Do these aggregates, in columns B, C, and D, correctly reflect the corresponding entries in the reports to which you have just referred?

A. They do.

Q. Are the computations in the columns E and F and in the three horizontal blocks at the foot of the exhibit true and correct?

A. They are, to the best of my knowledge and belief. I checked these, however, so I was very positive.

Mr. Booth: Any questions, Mr. Strouss?

Mr. Strouss: No.

Mr. Booth: We offer this in evidence to be marked "Defendant's Exhibit 120." [fol. 1593]

Mr. Strouss: The same objection.

The Court: The objection is overruled. The exhibit may be admitted in evidence.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 120.")

Mr. Booth: There has been handed to the clerk and I ask that there be marked "Defendant's Exhibit 121 for identification," an exhibit, consisting of one sheet, headed "The Chesapeake and Ohio Railway Company (Includes Hocking Valley Railway for entire period) Freight Service Operating Averages, Calendar Years 1922, 1924, 1926, 1928, 1930, 1932, 1934, 1936, 1938 and 1939." I will ask you, Mr. Wilbur, whether you have prepared this exhibit?

A. Yes, sir.

Q. Are the sources from which this exhibit was prepared correctly shown and described, together with the formulae for computing the computed items in the exhibit in the five source notes at the bottom of the exhibit?

A. Yes, sir, with the exception that there is no mention made, of course, as to the method for computing the percent increase, 1939 over 1922, shown in column M. That calculation, however, is obvious.

[fol. 1594] Q. Have you with you the forms OS-A?

A. I have.

Q. Used in making this report?

A. Yes.

Mr. Booth: I don't know that I have tendered to counsel the annual reports referred to by the witness, and I will tender them to him at this time, together with the forms OS-A just referred to by the witness.

Q. What was the reason, if you know, for the variation in miles of line operated in freight service shown in this exhibit?

A. I will give you some of the major changes. You will notice, generally it has been an increase throughout the period. In 1925, we leased the Long Fork Railway between Martin and Weeksbury, Kentucky, approximately 35 miles; also, the Sandy Valley and Elkhorn between Shelby Junction and Dunham, Kentucky. I don't think these little towns will show on the map. They are coal branches. That last mentioned is 30 miles. We also, in 1925, purchased the Coal River & Eastern, located between Seth and Prentiss, West Virginia, ten miles. I am giving these miles in round numbers. In 1926 we leased the Pond Fork and Bald Knob, 13 miles. We made a purchase of some further parts of one [fol. 1595] of our lines of about three miles. In 1927, we extended the Pine Creek branch four miles, and the Kinnickinnick and Freestone. We are in 1927 now. We took over

the operation of the Loop and Lookout and the Sewell Valley; both branches of the coal railroad known as the N. F. & G.; that is a total of fifty miles. In 1928 we took over the Green Brier and Eastern; eleven miles, and an additional part of the Sewell Valley, eight miles. Then there were some very small items in 1928, totaling four miles of these two coal branches. In 1929, we took over the Big Clear Creek, five miles, and in 1930 the Big Sandy and Kentucky River, 25 miles. We made an extension of the Gantley and Rich Creek branch in excess of five miles, and some other miscellaneous in that year of nine miles. In 1931 we added the Blue Jay branch, fifteen miles. And in that year there was a decrease in mileage due to discontinuing the operation of the Kentucky and South Atlantic branch, 19 miles. In 1932 we added additional mileage between Swiss and Nallen, West Virginia, 28 miles, and a little branch of that branch of two miles. In 1933 we retired all or part, I am not sure whether it is all of the branch, the Potts Creek branch, 17 [fol. 1596] miles, and a part of the Buckingham Branch in excess of four miles. In 1934, we retired the Cabin Creek branch, and we added trackage of nine miles on the Cabin Creek, and added three miles of trackage at Charleston, West Virginia; in 1935 we retired the upper end of that Kinniconnick and Freestone, four miles. There didn't much happen then until 1938, when we extended a branch known as the West Fork Subdivision, five miles, and in 1939 we entered into joint operation with the Virginian, in excess of 17 miles, and in that year we retired the Sugar Creek subdivision up in the Hocking Valley six miles. That probably won't balance, but those are the major items.

The Court: We will take our noon recess.

(Thereupon the court stood at recess.)

[fol. 1597] December 13, 1940, two o'clock P. M.

Proceedings were resumed at this time as follows:

The Court: You may proceed.

Mr. Booth: We were discussing Exhibit 121 for identification when the court adjourned for the noon recess. Now, does that exhibit include the consolidated reports to the Interstate Commerce Commission, or does this exhibit represent a consolidation of the reports to the Interstate Commerce Commission of the Chesapeake and Ohio Railway?

Company, and the Hocking Valley Railway for the period shown by the exhibit, in so far as those companies rendered separate reports?

A. It is compiled by adding the proper aggregates together for the two companies.

Q. And to the best of your knowledge, is the exhibit true and correct, including the computations made in accordance with the formula shown thereon?

A. It is.

Q. And the percentages shown in column M?

A. They are correct, to the best of my knowledge and belief.

Mr. Booth: Mr. Strouss, have you any questions?

[fol. 1598] Mr. Strouss: No questions.

Mr. Booth: We offer this exhibit in evidence as defendant's exhibit 121.

Mr. Strouss: The same objection.

The Court: The objection is overruled. It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 121.")

Mr. Booth: Mr. Wilbur, considering together exhibits 120 and 121, will you state from exhibit 120, the number of revenue ton miles, in round figures, carried in 1939?

A. 18,041 million ton miles.

Q. And in 1922?

A. 11,487 million ton miles.

Q. Then the railroad hauled approximately six million five hundred fifty three thousand, or slightly more than six billion five hundred fifty three thousand ton miles more of revenue freight in 1939 than it did in 1922, is that correct?

A. No, they hauled approximately six billion five hundred fifty three million more net revenue ton miles, an increase of 57.0 per cent.

Q. Now, going to exhibit 121, how many freight train miles did the two railroads, considered together, operate in 1922?

A. They handled approximately nine million, four hundred seventy seven thousand train miles.

Q. In 1922, that is line No. 2 in exhibit 121, is that correct?

A. Correct.



Q. And in 1939, how many freight train-miles were operated according to that line of the exhibit?

A. Nine million, five hundred sixty-nine thousand. That is an increase in train miles of 1.6 per cent.

Q. Or one hundred fifty-two thousand train-miles?

A. One Hundred fifty-two thousand train-miles or 1.6 per cent.

Q. Then, according to these exhibits, the railroad handled over six and a half billion revenue ton-miles of freight more in 1939 than it did in 1922, with an increase of only 152,000 train-miles?

A. Yes, sir.

Q. Now, will you turn to line 4 of exhibit 121? What does that line represent?

A. That shows the net tons per freight train; that is tons [fol. 1600] in the car and does not include the weight of car.

Q. Those tons would be represented in another form by the revenue ton-miles?

A. Yes, sir, in the revenue, freight trains, there are a few cars of non-revenue material, not in all revenue freight trains, but they may be in any revenue freight train.

Q. Such as company material?

A. Such as company material, the rail we receive and ballast and some other materials. You understand we do not include work trains. This is just straggling cars that move over the road when there is not sufficient to get out a work train.

Q. In putting the three comparisons together, the company during that same period increased its revenue tons per freight train by 59.3 per cent?

A. Yes, sir.

Q. And increased its revenue ton-miles by 57 per cent?

A. Yes, sir.

Q. But its freight train miles by only 1.6 per cent?

A. That is correct.

Q. During the same period, what increase was there in [fol. 1601] figures of cars per train from 1922 to 1939?

A. The freight cars per freight train are shown in line three. In 1922 the average number of cars per train of all freight trains is 51.9. In 1939 it was 79.5, an increase of 53.2 per cent.

Q. What method is used by the Interstate Commerce Commission in ascertaining the average number of cars per freight train?

A. It is found by dividing the total freight car-miles by the total freight train-miles.

Q. Is that the method used in arriving at the cars per freight train in the annual reports to the Interstate Commerce Commission, from which this exhibit was constructed?

A. Yes, sir.

Q. And that would include all trains classified as freight trains, no matter how short or how long they were, and no matter how many miles the train operated or whether it operated on the main or branch lines, would it not?

A. That is true.

Q. It would include what has been referred to here as local freights and way freights?

A. Yes, sir.

[fol. 1602] The Court: I don't know that I just get that answer, Mr. Wilbur. Will you elaborate on that, or restate it as to how the Interstate Commerce Commission arrives at the number of freight cars per freight train, I believe was the question.

A. Under their rules, for freight car-miles, a record is made from the wheel reports and obtain the total freight car-miles run in all freight trains, and having obtained that, and also under their regulations obtained the freight train-miles, the miles run by the trains carrying these cars, the car-miles are divided by the train-miles, that gives the average-cars per train.

Q. I notice in this exhibit that it shows, for instance, for the year 1939 on your road that the average number of cars per freight train was seventy-nine and a half?

A. Yes, sir.

Q. And that was arrived at in the manner you have indicated?

A. Yes, sir.

The Court: The reason I was asking this question, gentlemen, this road appears to have a much larger number of freight cars per freight train than any road we have had to date. Some of the others were extremely low, down to [fol. 1603] thirty or forty, as I recall.

The Witness: Yes, sir.

Q. But your road, due to the operations that were reported this morning, you do have exceptionally long trains?

A. That is the influence, yes, sir. The influence downward on our road is due to all these branch-line operations that Mr. Beale spoke of, where we have to go down and bring out just a few cars. That is an adverse condition we have, but in spite of that it is 79.5 cars in 1939.

Mr. Booth: Will it be all right to say that the method of computation required by the Interstate Commerce Commission really represents as the average number of cars per train the average number of freight car-miles handled per freight train-mile?

A. Yes, sir.

Q. Suppose you have a freight train, one freight train running one mile with one hundred cars. Now many car-miles would it have accumulated?

A. It would accumulate a thousand car-miles, you said one mile?

Q. One mile.

A. It would just accumulate a hundred.

[fol. 1604] Q. If you had the same freight train but only had ten cars in it, it would accumulate only ten car-miles?

A. Yes, sir.

Q. The two freight trains added together would be one hundred ten car-miles?

A. Yes, sir.

Q. You divide that by two freight trains and obtain an average—

A. —of fifty-five cars.

Q. Which would really be the average number of freight car-miles to a freight train-mile?

A. Yes.

[fol. 1605] Q. Would it be correct from a statistical standpoint to say that it was really the weighted average of distance and number?

A. It is a weighted average, yes, sir, and not a mathematical average, the difference being the weighted average takes into account all factors and the mathematical average in your case would have been the sum, but in the case of varying factors the weighted average would be the true average.

The Court: What do you mean by "weighted average"?

A. It might be best illustrated—if you ran ten trains with thirty cars each and twenty trains with sixty cars each, now if you add—you put your two factors together and add them,

20 and 60, you would have an average of 45. The total would be 90, and you would have an average of 45. The weighted average, you multiply 30 cars by the 10 and have 300, and the 20 trains by 60 and you have 1,200, and you divide the 1,500 by the sum of those trains, which is 30, and that gives you the weighted average of 50 cars. The first is merely a mathematical average, you have some trains of 30 and some trains of 60, and you add them together and divide, it is [fol. 1606] merely the mathematical average of that.

(Discussion off the record.)

My Booth:

Q. Mr. Wilbur, before we pass to another exhibit have you before you a copy of the Chesapeake and Ohio annual report to the Interstate Commerce Commission for the year 1939?

A. Yes, sir.

Q. Will you turn to schedule 541, revenue freight carried during the year, beginning at page 512 and read it to the record, first from page 519 the grand total of all carload traffic carried during that year?

A. The grand total carload traffic carried during the year 1939 was 1,359,943 cars.

Q. And the total number of tons of less than carload freight in line 710?

A. 475,676 tons.

Q. Related to the number of tons carried in those cars which is shown in column K on page 519 what percentage of the tonnage does L. C. L. bear to the total tonnage carried, about?

A. Approximately eight-tenths of one per cent.

Q. Taking the commodity groups 1 to 5 inclusive, will you read the number of carloads of freight in each group, giving the name of the group.

[fol. 1607] A. Group No. 1, products of agriculture, carloads, 69,649 cars; Group No. 2, animals and products, carloads, 22,214 cars; group No. 3, products of mines, carloads, 989,823 cars.

Q. Of those products of mines, how many carloads were bituminous coal?

A. 917,873.

Q. How many were coke?

A. 14,562.

Q. How many were iron ore?

A. 6,932.

Q. Group No. 4, products of forests?

A. Group No. 4, products of forests, carloads, 42,481 cars.

Q. And group No. 5, manufactures and miscellaneous?

A. Carloads, 235,776.

Q. There is one agricultural product I believe Mr. Beale did not refer to and that is leaf tobacco. How many carloads of that did you handle?

A. 14,992 cars.

Q. Will you turn to defendant's exhibit No. 117 for identification. Mr. Beale has already stated that he selected the main line and subdivisions for the purpose of this check. [fol. 1608]. That is correct, is it?

A. Yes, sir.

Q. Who selected the two two-week periods consisting of 28 days in June and October, 1939, respectively?

A. I selected those.

Q. For what reason did you select them?

A. I endeavored as near as possible to get two periods which would represent combined about the normal flow of traffic on all these divisions, four of which are on the eastern general and three on the western general part of the railroad.

Q. Do you in the course of your employment have occasion as part of your duty to make forecasts for the vice-president in charge of operation?

A. Yes, sir; that is one of my major duties, to forecast not only the volume of business but also to prepare forecasts of the estimated expense under which we will be in handling.

Q. In connection with that duty is it necessary for you and do you become familiar with the character and class of commodities and traffic handled by the railroad and their probable volume and past volume?

A. Yes, sir, I keep in daily touch with that.

Q. Based on that information and your experience will [fol. 1609] you say you consider these four weeks to be fairly typical weeks of the year's business of 1939?

A. On the subdivisions as shown.

Q. Based on the same experience would you consider these subdivisions as representative of the system as a whole?

A. No, this set-up here in each subdivision, the figures here are typical of that subdivision.



Q. What are those subdivisions typical of if they are typical of anything?

A. They are typical of the heavy traffic portion of the railroad.

Q. From what source or sources were the figures in lines 1 to 13 of this exhibit obtained?

A. They were taken from the conductors' wheel reports, our company form BF-2 and AF-374.

Q. Are those reports signed by the individual conductors of the individual trains?

A. Yes, sir.

Q. And from the conductor they go where?

A. From the conductor, one copy goes to the superintendent; two copies of that portion of the wheel report showing the car numbers, commodities, and the weights are sent to the car accountant. From one of his copies he prepares all [fol. 1610] the statistical data required by the Interstate Commerce Commission and from the other copy he strips so that each car is by itself and from that he keeps his book record of where every car is and what cars are delivered to other railroads and where foreign cars on our lines are moving, the last report as per the wheel report, that is, their location.

Q. Does the information contained on these wheel reports find itself into the OS-A eventually?

A. Yes, sir.

Q. Does it also find its way into the records of the company maintained for the purpose of showing volume and mileage of traffic on its respective subdivisions?

A. Yes, sir.

Q. Do you have access to the wheel reports as well as to the reports that follow them?

A. Yes, sir.

Q. But you read only the wheel reports in making up this exhibit?

A. Just the wheel reports.

Q. This exhibit according to its title is confined to freight trains operating between the regular freight engine terminals on the subdivisions listed. Were there other freight [fol. 1611] trains on those subdivisions besides the freight trains operated between those terminals?

A. Yes, sir, on the Peninsula Division at the lower end, down near Tidewater we have a little local freight that operates in and around called the "Hampton local." That

is not included, it does not go up on the main line except for a few miles.

Q. Did you bring all of the wheel reports including trains shown and the trains not shown for all divisions numbered 2 to 8, inclusive?

A. No, sir, I brought all the wheel reports which cover trains which, as is stated in the heading, operated the entire distance between the terminals of these subdivisions. In other words, all the wheel reports covering every train shown on the exhibit but not wheel reports covering any trains which ran or turn around and do not make the entire trip over the subdivision listed.

Q. Was this exhibit prepared under your personal direction?

A. Yes, sir.

Q. Did you satisfy yourself that the exhibit showed all trains of the character described in the title of the exhibit? [fol. 1612]

A. Yes, sir, I examined those wheel reports for those subdivisions which were not used in preparing this statement and found that all of those covered trains which did not traverse the entire distance of the subdivision.

Q. You prepared this for the purposes of this case?

A. Yes, sir.

Q. Is it true and correct to the best of your knowledge and belief?

A. It is.

Mr. Booth: Are there any questions, Mr. Strouss?

Mr. Strouss: Mr. Wilbur, the wheel reports which you have here of course only cover the trains which are shown in this exhibit?

A. Yes, sir.

Q. They don't show what other trains may or may not have been operated during that period?

A. No, each wheel report is individual unto itself, not each individual sheet because some of them have as many as five and six sheets.

Q. But the information has only to do with that train?

A. Yes.

Q. From those wheel reports it is impossible to determine [fol. 1613] how many trains other than these may have been operated that day or that period between the divisions?

A. That is true.

Mr. Booth: This exhibit is submitted, if the court please, as a typical exhibit only showing the general character of the through trains operated on these subdivisions. We offer the exhibit in evidence.

Mr. Strauss: Same objection.

The Court: Objection overruled, it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 117.")

Mr. Booth: We tender for counsel's examination the wheel reports in question. Those are here in the courtroom, are they, Mr. Wilbur?

A. Yes, sir.

Q. Turning to defendant's exhibit No. 119 for identification, the passenger exhibit, from what source did you procure the information shown in columns 3 to 17, inclusive, of this exhibit opposite lines 1 to 6 and lines 9 to 14, inclusive?

A. Those were obtained from the passenger wheel reports, form BP-11 $\frac{1}{2}$ .

Q. What is the method of handling these passenger wheel [fol. 1614] reports?

A. A conductor makes up his wheel report on leaving his terminal and then as he ends his run, which in the case of the train crews out of Washington and Clifton Forge, he hands his wheel report on to the next crew and that is continued on until they get into the final terminal which for these trains is either Washington or Cincinnati as the case may be according to whether they are east or west.

Q. That wheel report goes to whom?

A. To the superintendent and to the car accountant at Richmond, Virginia.

Q. You have access to those reports and did that for the purpose of this statement?

A. Yes, sir.

Q. Did you obtain those reports from the office of the car accountant?

A. Yes, sir.

Q. Do those form a basis eventually for OS-A reports?

A. Yes, sir.

Q. And eventually, in one form or another get into your annual report to the Interstate Commerce Commission?

A. Yes, sir.

[fol. 1615] Mr. Booth: Mr. Mason calls my attention to the fact that OS-A relates only to the freight service?

A. I overlooked that, too, form OS-B that is the passenger statistical form similar in some ways to the freight form OS-A.

Mr. Booth: In preparing this exhibit did you take the greatest number of cars in the trains at any one time between Washington and Cincinnati as the basis for classifying the train into these various lengths?

A. Yes, sir.

Mr. Booth: Any questions, Mr. Strouss?

Mr. Strouss: These wheel reports that you have here relate only to the passenger trains?

A. No, I have all the passenger—you will notice they are very compact little files. They are all the wheel reports for all passenger trains for four months. We didn't unbind those, in the other case, they were simply so voluminous.

Q. Why did you take a four-month period here and two week period on the freight trains?

A. It is a matter of necessity that we take a much shorter period on the freight trains in order to have the information ready. It is quite a voluminous task to draw these [fol. 166] freight trains down. In that period you will notice there are 3,200 freight trains for which some 9,000 wheel report sheets had to be examined.

Q. Your passenger operation is that affected by Congress being in session at any time?

A. Not particularly, no, sir.

Q. Your traffic between Washington and Chicago—

A. We don't have passenger business between Chicago and Washington, it competes with the Pennsylvania and the New York Central. You have to come down through Cincinnati and then over to Washington, a considerably longer route.

Q. How about Cincinnati and Washington?

A. Between Cincinnati and Washington there would be some variance in the traffic, it is more seasonal and affected by other things, conventions influence it, movements of the National Guard will influence it when they move. This year they influenced it. As to the months of January, April, July, and October I have some knowledge of the car miles which I keep track of in connection with my other duties and they are approximately one-third of the car miles for the year.

Q. Were any of these things that you speak of as influencing that traffic, were any of those during the months that you used here?

[fol. 1617] A. They might or might not. I know the Guard movement would not because that is chiefly in August.

Mr. Strouss: That is all.

Mr. Booth: We offer this in evidence as defendant's exhibit No. 119.

Mr. Strouss: Same objection.

The Court: Objection overruled, it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 119.")

Mr. Booth: I have handed the clerk an exhibit in one sheet entitled, "The Chesapeake and Ohio Railway Company, (Includes Hocking Valley Railway for entire period) Casualties to All Classes of Employees on Duty and to Trainmen and Enginemen on Duty Sustained in Train and Train Service Accidents," and ask that it be marked defendant's exhibit next in order.

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 122 for identification.

[fol. 1618] Mr. Booth: I now show the witness portions of defendant's exhibit No. 9, certified to by the Secretary of the Interstate Commerce Commission, the portions shown being the rules governing monthly reports of railway accidents, the order of October 24, 1935, supplementing those rules, the order of June 5th, 1936, supplementing those rules, the order of October 30, 1936, supplementing those rules, and the order of January 28, 1939, supplementing those rules. Are you generally familiar with the rules to which I have referred, Mr. Wilbur?

A. Generally; yes, sir.

Q. And do you know whether or not the Chesapeake & Ohio Railway Company, during your official connection with it in the capacity to which you have testified, has regularly rendered reports to the Interstate Commerce Commission under those rules?

A. They have.

Q. And have you seen in the office of the Commission as well as in the office of your company the copies of those reports?

A. Yes, sir.



Q. I now call your attention to a part of the same certified record, which is the monthly report of railway accidents, Form T, of the reports. Were the reports in question rendered, in so far as that form was applicable, on Form T?

A. Yes, sir.

Mr. Booth: I desire to show the Court this Form T.

The Court: In other words, that is a report that the Interstate Commerce Commission requires to be made monthly by each of the railroads?

A. Yes.

Mr. Booth: Now, are you familiar with the accident bulletins of the Interstate Commerce Commission for the years 1924 to 1938, inclusive?

A. Yes, sir.

Q. And have you a set of those reports in the courtroom with you?

A. There is a set here, I have them in hand for 1922 to 1938, both inclusive.

Q. I show you a bulletin headed, "Interstate Commerce Commission, Bureau of Statistics, Accident Bulletin No. 107, Summary and Analysis of Accidents on Steam Railways in the United States, subject to the Interstate Commerce Act, Calendar Year 1938," with a facsimile of the seal of the Commission, and underneath that, "United States Government Printing Office, Washington, 1939. For [fol. 1620] Sale by the Superintendent of Documents, Washington, D. C. Price 20 cents." I ask you whether that is the latest accident bulletin of that character that has been issued by the Interstate Commerce Commission?

A. Yes, sir, Bulletin 107 is the latest one.

Q. The Bulletin for the calendar year 1939 has not yet been off the press, has it?

A. No, sir.

Q. Now, from what source or sources was this exhibit 122 for identification prepared?

A. Column B, which shows car-miles of all transportation service and work was obtained from the annual reports of the Hocking Valley and C. & O. Railway made to the Interstate Commerce Commission.

Q. Which have been produced in court and tendered to counsel?

A. Yes, sir.

Q. Now, just explain the term "all transportation, service and work."

A. The "all transportation service" includes freight train operation, passenger train operation, mixed train operation, and work service trains, in other words, all the trains that you run and all the car-miles that you run, and [fol. 1621] also includes what we call our gas-electric car operation, of which we have a very small amount on some of the smaller subdivisions.

Q. By "very small," what ~~percentage~~ does that relationship bear?

A. Well, it would run about 720,000 car-miles of the 722,000,000 car-miles in 1938, or about one per cent.

The Court: Explain what you mean by this gas car; what type of car is that?

A. Well, I am not mechanically able to explain other than it runs by an engine which, from the fuel applied to it, produces power, it consumes gasoline and produces electric power. It is a comparatively small combine car, most of them about half passenger, a compartment for mail and express, and then they sometimes carry a trailer car, which will be all for passengers, and in one case an express car, but they never run over two or three cars in it.

Q. Do I understand such car or train would have no locomotive?

A. No. This gas-electric car is the motive power for it.

Mr. Booth: You say it represents about one per cent of the total car-miles?

[fol. 1622] A. Yes, sir.

Q. And that exclusively in passenger service?

A. Exclusively, yes, sir.

Q. Not classified as a freight train?

A. No; it handles no freight.

The Court: But such car and its operation is included in this column B?

A. Yes, sir.

Mr. Booth: From what sources did you obtain columns C, D and E?

A. They are obtained from the table 99 of the bulletin of accidents issued by the Interstate Commerce Commission.

Q. Will you take your copy that you have before you of Bulletin 107, and state for the benefit of the Court, who has

one of the copies before him, the page and place where these entries are contained. (Addressing Mr. Strouss) I am sorry, Mr. Strouss, I haven't another copy here.

Mr. Strouss: I have been all over that table.

A. You find the Chesapeake & Ohio Railway on page 70, and that shows in table No. 99 on line 10—I beg your pardon—yes, that is right, table 99.

[fol. 1623] Mr. Booth: Just state from that line as it is before you in that bulletin the number of casualties to all employees on duty during the year 1938 in terms of persons killed and persons injured.

Mr. Strouss: I think, if the Court please, that there should be some offer of the exhibit in evidence before they start reading it in.

The Court: That is true.

Mr. Booth: You are correct about that.

Q. Does the table show for 1938 the number of all employees on duty killed and the number of all employees on duty injured on the Chesapeake & Ohio, including the Hocking Valley Railway, for the year 1938?

A. It does.

Q. Now, when you go back to former years when the two companies reported separately to the Interstate Commerce Commission, are these figures in a consolidated form, or separately, in the annual accident bulletins by the Chesapeake and Ohio and the Hocking Valley?

A. The Hocking Valley is shown separately, and the figures for exhibit 122 are obtained by combining the two reports for the years 1924 to 1929, both inclusive, and in [fol. 1624] 1930 the Hocking Valley shows for the four months' period prior to May first. That is included in the totals for 1930.

Q. During those years when the companies reported separately, is the Hocking Valley in the same group in the annual accident bulletin as the Chesapeake and Ohio?

A. The same group? No, sir. The Chesapeake and Ohio, in 1924 appeared in the group called the Southern District; the Hocking Valley appeared in the group called the Eastern District.

Q. Those are regional groups?

A. Regional groups prescribed by the Interstate Commerce Commission.

Q. Now, where will casualties to trainmen or enginemen on duty be found in the bulletin 107 of 1938?

A. They will be found on page 71, line 10, under the heading in Roman numerals "VI," 6(b), transportation train and engine.

Q. Columns I and J of this defendant's exhibit 122 for identification, are computations made by you from the preceding figures, are they?

A. Yes, sir.

Q. And likewise, are the blocks numbered 16 to 20 inclusive, computations made by you?

[fol. 1625] A. Yes, sir.

Q. Are those computations true and correct?

A. Yes, sir, to the best of my knowledge and belief.

Q. When did you come to Tucson, Mr. Wilbur?

A. I arrived Monday morning.

Q. Last Monday morning?

A. Yes, sir, on the Golden State.

Q. Has this exhibit been prepared by you since you have reached Tucson?

A. Yes, sir.

Q. Did you use to any extent or in any manner the forms T, or any other records or documents of the Chesapeake and Ohio in preparing this statement except the annual reports?

A. I used the annual accident bulletins for the number of casualties both to all employees and trainmen and enginemen. These bulletins, as shown here in these three bound books.

Q. And the annual reports?

A. And the annual reports, which I brought with me.

Q. Is this exhibit true and correct, to the best of your knowledge and belief?

A. Yes, sir.

Mr. Booth: Any questions, Mr. Strouss?

[fol. 1626] Mr. Strouss: Yes.

Q. I understand you to say you tendered me something a while ago. I didn't hear what it was.

A. Oh, I didn't—

Q. Was it the accident bulletins?

A. I laid it up there. It can be tendered.

Q. I was just trying to get clear what your answer has been.

A. I guess it was something I misunderstood.

Q. This exhibit, except for the items shown in column B, is taken entirely from table 99 of the accident bulletins of the Interstate Commerce Commission?

A. Yes, sir.

Q. Now, that table is made up of information taken from the Form T's filed by the railroad with the Interstate Commerce Commission.

A. Yes, sir.

Q. Those Form T's are not limited to the different employees shown in the column here, are they? In other words, they cover all train accidents and all train service?

A. Those listed on exhibit 122 are all the casualties to employees on duty in train and train-service accidents.

[fol. 1627] Q. I understand that, but the Form T that you filed with the Interstate Commerce Commission is not limited to accidents involving employees on duty?

A. No, sir.

Q. It covers all accidents?

A. Yes, sir.

Q. And the classification set up in table 99 shows different classifications of employees?

A. Yes, sir.

Q. And that is a compilation by the staff of the Interstate Commerce Commission from the different Form T's filed by your railroad?

A. That is correct.

Q. In other words, they have to sort out different Form T's that apply to this particular class.

A. The Form T classifies employees by number, it is prescribed in this bulletin. In their rules, they have a code and it is required that the carrier show, for example, that the injury occurred to employee that comes under the heading Division No. 111, which would be a road passenger conductor.

Q. But the result of this compilation in the accident bulletin is the segregating or sorting of those particular Form [fol. 1628] T's?

A. That is the result of the use made of the Form T's by the Bureau of Accidents of the Interstate Commerce Commission, yes, sir.

Q. Of course, this exhibit doesn't in any way show whether these accidents occurred on short or long trains, does it?



A. No, this is all casualties.

Mr. Strouss: That is all the questions.

Mr. Booth: We renew the offer, if Your Honor please.

Mr. Strouss: We make the same objection, and the further objection that this is irrelevant and immaterial, because there is no probative value; there is nothing to show whether there is any relation between trainmen, just the total of all accidents that have occurred without any showing as to whether they may have been on short or long trains, no probative value as to effect of train length on accidents.

The Court: The objection will be overruled. It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 122.")

Mr. Mason: I think it should be understood, Your Honor — Mr. Strouss, may we understand that your objection to [fol. 1629] Exhibit 122 is not on the ground that the documents upon which it is based are not available to you?

Mr. Strouss: No.

Mr. Mason: Or that they are not, as to the publications of the Interstate Commerce Commission official publications of that body?

Mr. Strouss: My objection is that it is not the best evidence in the first place, therefore incompetent, second, that there is no showing here of similarity, that it is irrelevant and immaterial, third, that it has no probative value, fourth, that it is calling for a conclusion.

The Court: We will take our afternoon recess at this time.

(Thereupon, a short recess was taken, after which the witness was recalled to the stand and proceedings were resumed as follows:)

Mr. Booth: Mr. Wilbur, you prepared a tentative exhibit entitled "The Chesapeake and Ohio Railway Company (Includes Hocking Valley Railway For Entire Period). Derailments, all Classes of Service Reportable to the Interstate Commerce Commission for the Years 1924 to 1938, Inclusive," then the word "System."

A. Yes, sir.

[fol. 1630] Mr. Booth: That has been handed to the Clerk, and I ask that it be marked "Defendant's Exhibit 123 for identification."

The Court: It may be marked.

The Clerk: Defendant's exhibit 123 for identification.

The Court: Mr. Booth, before you go on with that, you questioned Mr. Wilbur with reference to 122. This does not purport to cover any casualties to passengers, does it?

A. No, sir, this is employees of the railroad on duty.

Q. Is there any report made to the Interstate Commerce Commission covering casualties to passengers?

A. Yes; that is included on the Form T. When there are injuries they are reported on Form T to the Interstate Commerce Commission.

Q. Would that report cover only such individuals as might be passengers on your lines, or would it cover, for instance, grade crossing accidents?

A. They are also reported on Form T. They wouldn't be passengers, of course, but it comes under the general heading "Highway Crossing Accidents."

[fol. 1631] Mr. Booth: Non-trespassers?

A. Non-trespassers, if they are grade crossings. Occasionally there are some that are trespassers.

Mr. Mason: Isn't it a fact you also report accidents to trespassers, hoboes on your trains, if they are killed or injured?

A. Yes; in fact, any accident that is the result of the operation of the trains is reportable on form T.

The Court: But this particular schedule, 122, is limited entirely to the employees of the railroad?

A. Yes, sir.

Mr. Booth: This exhibit, the one I have just identified, really belongs logically in what I refer to as the third grand subdivision of our case, but because I did not want to ask Mr. Wilbur to stay here or to come back, I have put it in in connection with the economic part of the case. The classification of accidents, the form of report, and a great deal of information regarding that will be very fully gone into after the recess.

The Court: All right.

Mr. Booth: Mr. Mason calls my attention to the fact that [fol. 1632] the casualties to passengers is shown on Table 100 of the accident bulletins by railroads.

Q. Mr. Wilbur, referring to defendant's exhibit 123 for identification, from what source did you take columns B, C, and D of this exhibit?

A. I took those from the annual reports to the Interstate Commerce Commission of the Hocking Valley and C. & O. Railways for the period 1924 to 1938.

Q. Reports which you have already produced here?

A. Yes, sir.

[fol. 1633] Mr. Booth: Column B is headed "Locomotive Miles (Thousands)." Does that include freight and passenger locomotives?

A. Yes, sir, and switching locomotives.

Q. It includes locomotives operated in yards?

A. Yes, sir.

Q. Does that include the mileage made by these gas cars you spoke of a while ago?

A. No, sir; I will change that expression of it. This includes the locomotive miles and the train miles of these gas-electric cars. In other words, there is only one of the cars with power and that is the motive power unit and the miles of that unit are found by taking the train miles from the report of mileage made by the gas-electric cars.

Q. That is in accordance with the instructions from the Commission?

A. Yes, sir.

Q. Column C, "Train Miles (Thousands)," does that likewise include all classes of freight trains, passenger, work, and mixed, if you have any?

A. Yes, sir.

Q. And these gasoline units?

A. Yes, sir.

Q. The car miles in thousands, does that include freight [fol. 1634] cars, passenger cars, and cars with company material moving in maintenance-of-way trains?

A. Yes, sir.

Q. And these gasoline cars also?

A. Yes, sir.

Q. From what source did you take columns E, F, G, H, and I?

A. They are taken from the table No. 101 of the accident bulletins issued by the Interstate Commerce Commission.

Q. Did you find the same necessity for combining the Hocking and the Chesapeake figures from the same years that you found with respect to exhibit No. 122?

A. Yes, sir.

Q. You combined them in the same manner?

A. Yes, sir.

Q. Did you find those figures consolidated in the Chesapeake portion of the accident bulletins in this exhibit as you did in the other exhibit, No. 122?

A. Yes, sir.

Q. The derailments shown here are not confined to derailments resulting in personal injury to employees or others, are they?

[fol. 1635] A. No, sir.

Q. They include all classes of derailments from what point, or what is reportable to the railroad?

A. In accordance with the rule here a train accident would include, if it were a derailment, which is what we are discussing in this exhibit, a derailment which cost for repairs to equipment and including the cost of clearing the wreck in excess of \$150.

Q. In any derailment that resulted in damage to equipment or other railway property, including the cost of clearing the wreck, of \$150 or less is not reportable to the Interstate Commerce Commission and would not be included on this exhibit, is that correct?

A. That is correct.

Q. So that these derailments shown on this exhibit may or may not have resulted in personal injuries, is that correct?

A. That is correct.

Q. If they resulted in personal injuries the character of the injury and the person to whom it happened would be shown on the form T in addition to the cost of clearing the wreck and so forth?

A. Yes, sir.

[fol. 1636] Q. And if it did not result in personal injury only the character of damage and the cost thereof would be shown?

A. That is right.

Q. You have computed in columns J, K, and L total derailments on three bases, have you not?

A. Yes, sir.

Q. What are the bases?

A. The total derailments per 100,000 locomotive miles are shown in column J; for 100,000 train miles in column K, and per 1,000,000 car miles in column L.

Q. You have shown in block 16 the corresponding figures to those shown for the respective years from lines 1 to 15, inclusive, but for the four years, 1924 to 1927, inclusive?

A. Yes, sir.

Q. And the same is true of line 17 except it relates to the years 1928 to 1931, inclusive?

A. Yes, sir.

Q. And line 18 except that it relates to 1932 to 1935, inclusive?

A. Yes, sir.

Q. And line 19 except that it relates to 1936 to 1938, inclusive?

A. Yes, sir.

[fol. 1637] Q. In line 20 you have compared the period 1936 to 1938 with the three-year period 1924 to 1927?

A. No, Mr. Booth, with the four-year period 1924 to 1927.

Q. The four-year period, 1924 to 1927?

A. Yes, sir.

Q. And line 21 you have made a comparison of the year 1924 with the year 1938?

A. Yes, sir.

Q. I take it that the word "improvement" as used in line 20 simply means there were 81 per cent less derailments in the three-year period 1936 to 1938 than there were in the period 1924 to 1927 measured on the basis of car miles?

A. Yes, sir, in column L.

Q. And the word "improvement" as used in line 21 merely refers to the decrease in percentage of 1938 compared with 1924 in the three columns J, K, and L?

A. Yes, sir.

Q. Are the figures and computations shown on the face of this exhibit true and correct to the best of your knowledge and belief?

A. Yes, sir.



Q. This exhibit, like exhibit No. 122, was prepared after [fol. 1638] you came to Tucson?

A. Yes, sir.

Q. And solely from the sources shown in the two source notes at the bottom of the exhibit?

A. Yes, sir.

Q. You used no other records or information?

A. No other records or information.

Mr. Booth: Any questions, Mr. Strauss?

Mr. Strauss: No questions.

Mr. Booth: We offer this in evidence.

Mr. Strauss: The same objection as to exhibit No. 122.

The Court: Objection overruled, it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 123.")

Mr. Booth: Do you desire to defer the cross-examination?

Mr. Strauss: Yes, I prefer to, I don't feel so very good today.

Mr. Booth: I just have a very few questions of Mr. Beale, an extension of the direct examination. Will you resume the stand, please, Mr. Beale?

[fol. 1639] FRANK D. BEALE resumed the witness stand for further direct examination:

Mr. Booth:

Q. Mr. Beale, my attention has been called to the fact that some of my questions and some of your answers which were made because of the form of the question might leave the inference that these 160-car trains which I called coal trains carried nothing but coal. Is that universally so?

A. No.

Q. Is it a common practice for the Chesapeake and Ohio to handle merchandise or other commodities in boxcars in connection with and as a part of those 160-car trains?

A. It is.

Q. Will you explain briefly the circumstances under which such an operation takes place?

A. We have arranged scheduled trains to handle merchandise or freight that is handled in boxcars and when there is not a sufficient number of cars of that character to load the engine as we wish it loaded we will add a sufficient number of coal cars of either loads or empties, as the case may be, to build a train up to 160 cars and in the cases on the Logan division and on the Big Sandy division [fol. 1640] where we have a small amount of boxcar freight to move we regularly move that on the trains that consist mostly of coal cars. The only reason for running the train of boxcars separately from coal cars is a matter of efficiency and convenience but wherever it is desirable to run the two in the same train we regularly do it. There is a train that leaves Clifton Forge each day with freight for Washington. That train never has enough boxcars to fill the train out so we put the coal in that train.

The Court: What would be the comparable weight of a car of coal as compared with a boxcar loaded?

A. The average on our railroad is 45 tons perhaps for the average boxcar and 78 to 80 tons for the average coal car, loaded in both cases.

Mr. Booth: Referring to this photograph which was introduced during your testimony, what would you say the average net weight of the coal per car was in those cars basing your answer on your experience with the loading and unloading of coal cars?

A. About 55 tons.

Mr. Booth: Mr. Mason wanted to ask you about some mathematical calculation which is a little too deep for me. [fol. 1641] The Court: If there is no objection, you may proceed, Mr. Mason.

Mr. Mason: Having in mind the court's question as to the meaning of the average cars per train in exhibit No. 121 and your experience with operations on your own railroad, have you prepared a short example which will indicate how that average is computed and what its meaning is?

A. I have.

Q. Will you state that for the record?

A. If a train of 160 cars runs 25 miles and sets off 80 cars at a junction, then runs 50 miles and sets off 70 cars at a junction, then proceeds 25 miles with the remaining 10 cars to its destination, this train has accumulated 25 multiplied by 160 which equals 4,000; 50 multiplied by 80 equals 4,000; 10 multiplied by 25 equals 250, a total of 8,250 car miles and a total of 100 train miles. The statistical length of this train is  $82\frac{1}{2}$  cars although it for 25 miles had 160 cars.

Q. Is that reasonably typical of an operation which may occur?

A. It is reasonably typical of an operation that occurs on our Toledo division. Marion is a large interchange point with the Erie and Fostoria is an interchange point with the Nickel Plate and quite often we start a train out [fol. 1642] of Parsons that will set off perhaps half the train at Marion, all but a few cars at Fostoria and proceed to Wallbridge with those few cars. The mileages I have given here were merely for simplicity of calculation but the principle is the same.

Mr. Strouss: May I ask, that train then would be shown on your exhibit as a train of—

A. 160 cars because that exhibit is made up on a maximum-car basis.

Mr. Mason: No further questions.

Mr. Strouss: I would prefer to cross-examine later.

The Court: Have you finished with the witnesses who are available?

Mr. Booth: Yes, Your Honor, except for their cross-examination.

(Discussion off the record.)

The Court: The court will be at recess until 2 P. M. tomorrow afternoon, December 14, 1940.

(Thereupon at 4 P. M., December 13, 1940, the court stood at recess until 2 P. M., December 14, 1940.)

[fol. 1643]

December 14, 1940, two o'clock P. M.

All parties being represented as heretofore noted, proceedings were resumed as follows:

The Court: You may proceed with Mr. Beale's cross-examination, I believe.

FRANK D. BEALE was recalled to the stand, and testified further as follows:

Cross-examination.

By Mr. Strouss:

Q. Mr. Beale, what is the length of these coal cars you operate?

A. They vary in length, they average about forty feet.

Mr. Strouss: You gave me a copy of your rules before we adjourned yesterday. I would like you to take this and read into the record the duties of freight conductors and freight brakemen. (Addressing Mr. Booth.) If you prefer, Mr. Booth, to save time, we have copies of it—

Mr. Booth: We will stipulate that the reporter may copy that into the record without being read, if you will indicate by pages.

The Court: The record may show the stipulation.

Mr. Strouss: Beginning with the words in dark letters [fol. 1644] "Freight Conductors" on page 161, and ending with the words "the conductor when the train needs protection" on page 166, just before the word "Enginemen" in dark heavy letters. That is all the questions I have.

(The following matter is copies into the record in accordance with the following stipulation:)

#### "Freight Conductors"

Freight Conductors report to and receive instructions from the Train Master, and, at stations and yards, will also obey the instructions of the Station Agent or Yard Master.

They will report for duty at the required time, and assist in making up the train when necessary.

Where required, they will compare time with engineman and brakeman who will act as flagman, each trip before departure of the train. They will never entrust the duties of a flagman to any person not entirely familiar with them, except in emergency, and then they will give the fullest instructions in such duties, which circumstances will permit.

They must know that the men employed on the train are familiar with their duties.

[fol. 1645] Except where otherwise directed, they will look over the train carefully before starting, and know that the

couplings, brakes and running gear are in good order, and that the prescribed signals are correctly displayed.

Flat cars will be placed near the rear of the train, and camp cars will be placed next to the caboose.

They must have the proper authority for the movement of each car in the train.

They will not take cars that are improperly loaded or overloaded, or cars not in condition to run safely, and will report all such cases by wire to the Superintendent.

Unless otherwise directed, they will not start the train from an inspection station until the inspectors have given notice that their work is finished.

They will inspect the train as often as opportunity offers during the trip.

They will collect all brasses, drawheads, car doors, and other material broken from cars, when practicable, and when not practicable, report to the Train Master where they are left.

They will when crippled cars are cut out of the train report the fact by wire to the Chief Train Dispatcher, [fol. 1646] and in case they are left where there is no station agent, take the slips or waybills to the next regular station, making endorsement as to action taken.

They will see that doors of all empty cars in the train are properly closed and fastened while in transit.

They will be responsible for the movement, safety, and proper care of the train, and for the vigilance and conduct of the men employed thereon.

They will station themselves upon the train in the best position possible to enable them to see that the train is intact, and that there trainmen properly perform their duties, so as to insure the best possible management of the train; and must know that their flagmen go out promptly when necessary to flag, and with proper signals.

In approaching yard limits, ends of double track, railroad crossings at grade, drawbridges, junctions, water stations and meeting points; where the train may be required to stop, also in ascending and descending heavy grades, trainmen must all be in proper position on the train, and when practicable, should consult the air pressure guage in caboose to know that brakes are properly charged.

[fol. 1647] They will see that hand brakes, when used,



are applied so as to avoid sliding or overheating the wheels. Braking should be changed in descending long grades.

They will see that brakes are set on cars left on side tracks, and where on grades or during high winds that the wheels are blocked. So far as possible, all cars on side tracks will be left coupled.

In switching, where it is necessary to move cars that are being loaded or unloaded, notice will first be given to all persons in or about such cars. When cars are so moved, they will be returned to the same position as found.

They will comply with local ordinances relating to the obstruction of public crossings.

They will, in leaving cars on side tracks, see that they are entirely clear of any street, highway or private crossing. When placing cars on sidings adjacent to running tracks where there is a public road crossing, trainmen will place the cars as far from the road crossing as conditions will permit, in order that persons using the crossing will have unobstructed view of approaching trains for as great a distance as possible.

[fol. 1648]. They will carefully check with the waybills (in conjunction with the station agents if possible) all freight loaded and unloaded, and make a record of freight over, short, or in bad order. When necessary to transfer freight from one car to another, they will record the transfer on face of waybill, together with the number of the car to which it is transferred.

Passengers will not be carried on freight trains without proper authority. Tramps or other trespassers must not be allowed to ride; and every precaution will be taken to prevent cars from being robbed while in transit.

They will make memorandum of any occurrence connected with the trip that is important to record, with the date and a brief statement of the circumstances.

They will at the end of each trip make out all reports required, observing all instructions, and deposit such reports in the prescribed places.

#### Freight Brakemen

Freight Brakemen report to and receive instructions from the Train Master, and while on trains are subject to the instructions of the conductor, and at terminal stations are

also subject to the instructions of the Station Agent or [fol. 1649] Yard Master.

They will report for duty at the required time, and assist in making up the train when necessary.

They will look over the train carefully before starting, unless otherwise directed, and know that the couplings, brakes and running gear are in good order; and inspect the train as often as possible during the trip.

They will keep a constant lookout, while running, for defects on cars in their ~~own~~ trains, also watch passing trains for defects.

They will in approaching yard limits, ends of double track, one mile before reaching and while passing railroad crossings at grade, drawbridges, junctions, water stations, and other points, where the train may be required to stop, also in ascending and descending heavy grade, be in proper position on the train.

They will see that hand brakes, when used, are applied so as to avoid sliding or overheating the wheels. Braking should be changed in descending long grades.

They will see that chains on rear end of cabooses are kept securely fastened.

Rear brakemen or flagmen will compare watches with [fol. 1650] the conductor. Front brakemen will compare watches with conductor or engineer.

Rear brakemen or flagmen must consider it their especial duty to protect the rear of the train in accordance with the rules, and they will allow nothing to interfere with the prompt and efficient discharge of this duty. They will obey the signal from the engineer prescribed by the rules but will never wait for the signal or instructions from the conductor when the train needs protection."

Redirect examination.

By Mr. Booth:

Q. As a matter more of curiosity than anything else, what was the length of the freight train shown on the photograph that you exhibited?

A. I didn't measure that train, but from the mile posts and rail lengths, I know it was approximately six thousand six hundred feet in length.

The Court: And the grade at that point, Mr. Beale?

A. I would have to look at the profile.

Q: Let me change the question. Not necessarily at that point, on that particular run.

A: The grades on that particular run are .2 of one per cent [fol. 1651], except for one point where we have helper service, and at that point the grade is .7 of one per cent, but over that entire district .2 of one per cent is the maximum in the direction this train was moving.

Mr. Booth: No further questions.

The Court: May this witness with his records be now excused?

Mr. Strouss: Yes.

The Court: It is so ordered.

(Witness excused.)

LOCKE S. WILBUR was recalled to the stand.

Mr. Booth: If the Court please, Exhibits 122 and 123, introduced during the testimony of Mr. Wilbur, which dealt in part with casualties, ended with the year 1938, as explained by the witness, for the reason that the 1939 annual accident bulletin published by the Interstate Commerce Commission is not yet off the press. We may, and probably will, want to supplement that exhibit by showing of casualties, which will be merely an extension of that exhibit, to cover the year 1939, and in order to do so, we will have to have the same mileages for the year 1939 that are shown [fol. 1652] in that exhibit, namely, locomotive-miles, train-miles, and car-miles.

Direct Examination (Continued).

By Mr. Booth:

Q: I will ask the witness to take his file copy of the Form A, annual report to the Interstate Commerce Commission of the Chesapeake and Ohio, for the calendar year 1939, and read into the record the locomotive-miles, train-miles and car-miles corresponding to the same entries on those two exhibits.

A: The figures in question are found in Schedule 531, page 508. The locomotive-miles, which include motor car train-miles, 21,120,076; train-miles, 14,375,611; the car-miles expressed in thousands of car-miles, 793,886.

Mr. Booth: No further questions.

Cross-examination.

By Mr. Strouss:

Q. Mr. Wilbur, defendant's exhibit No. 120—

A. Yes, sir.

Q. The items which occur in Column C, those are the totals of Items 201 to 462 of your annual reports each year?

A. I think you have the right account numbers. Yes, [fol. 1653] sir.

Q. And the amounts which are shown in column D of the exhibit are the totals of accounts 371 to 420 of your annual report each year?

A. 371 to 420, yes, sir.

Mr. Strouss: That is all.

Mr. Booth: No questions.

The Court: Then, may this witness with his records also be excused?

Mr. Strouss: Yes.

The Court: It is so ordered.

(Witness excused.)

Mr. Booth: I want to take this occasion to wish Your Honor and the officials of the court, and counsel on the other side a very Merry Christmas.

The Court: Thank you. The court will then be at recess until Monday, January 6, 1941, at ten A. M.

[fol. 1654] January 6, 1941, ten o'clock A. M.

The parties were represented as heretofore noted, except that Mr. B. G. Thompson, of the law firm of Knapp, Boyle & Thompson, appeared in the stead of Mr. James P. Boyle, who was absent.

Thereupon, the following proceedings were had:

The Court: You may proceed, Gentlemen.

Mr. Mason: We will call Mr. Blanchard.

M. C. BLANCHARD was called as a witness on behalf of the defendant, and being first duly sworn, testified as follows:

Direct Examination.

By Mr. Mason:

Q. Mr. Blanchard, will you please state your name and residence?

A. M. C. Blanchard, Los Angeles, California.

Q. Are you employed by the Atchafalaya, Topeka & Santa Fe Railway Company, Mr. Blanchard?

A. Yes.

Q. In what capacity?

A. Chief Engineer of the Coast Line.

Q. As Chief Engineer of the Coast Lines, between what points does your jurisdiction extend?

[fol. 1654<sup>1</sup>/<sub>2</sub>].

Index

	DX	XX	RDX	RXX
M. C. Blanchard	1654	1707	1709	1709
G. K. Thomas	1710	1729	1730	
J. P. McDonald	1735			

[fol. 1655] A. Albuquerque and Belen to Los Angeles, San Francisco, San Diego, Phoenix.

Q. Your jurisdiction as chief engineer includes all of the lines of the Santa Fe west of Albuquerque and Belen then, but not the lines between El Paso and Deming?

A. That is right.

Q. And all of the Santa Fe lines in Arizona and California?

A. Yes.

Q. How long have you been with the Santa Fe, Mr. Blanchard?

A. Thirty-eight years.

Q. What positions have you occupied in its service?

A. Well, from 1872 to 1905 I was rodman, transitman, assistant engineer, on what is known as the Middle, Panhandle & Western divisions; 1906 to the middle of 1907, I was assistant engineer on the Kansas City Belt Railway, and in charge of second track construction in northeastern Missouri; 1907 to 1909 I was division engineer on the Kan-



San City division and the Middle division; 1909 to the middle of 1910, I was roadmaster on the Middle division; from the middle of 1910 to the first of 1911, I was assistant engineer [fol. 1656] in the Chief Engineer's office in Topeka; from 1911 to about the middle of 1913 I was division engineer of the Eastern and Kansas City Divisions; from the middle of 1913 to the middle of 1915, I was office engineer for the Chief Engineer of the Eastern lines at Topeka; from the middle of 1915 to February, 1918, I was district engineer of the territory from Chicago to Emporia, Kansas; from 1918 to 1920, Division Superintendent on the Missouri division; 1920 to November, 1922, superintendent of the Illinois division; November 1922 to September 1929, Chief Engineer of the Western Lines. That comprises the territory from Newton to Albuquerque south to El Paso, and some of the lines in Texas; September, 1929, to date, Chief Engineer of the Coast Lines.

The Court: Your headquarters are where?

A. Los Angeles.

Mr. Mason: Your service, then, has extended over every part of the main lines of the Santa Fe from Chicago as far west as San Francisco, Los Angeles, and San Diego?

A. Yes, sir.

Q. Your 38 years of service has been largely in the engineering department, except, I think, for two terms of two years each, four years, as a division superintendent [fol. 1657]?

A. About five years as division superintendent and a year and a half as roadmaster.

Q. I show you a map of a single sheet, bearing the title "The Atcheson, Topeka & Santa Fe Railway System," with a legend referring to a heavy line. Have you seen that map, Mr. Blanchard?

A. Yes, I have.

Mr. Mason: The map has been distributed; your Honor. We will ask that it be marked for identification as Defendant's Exhibit 124.

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 124 for identification.

Mr. Mason: Will you say, Mr. Blanchard, whether Defendant's Exhibit No. 124 for identification is a reasonably

correct outline map of the lines of the Santa Fe and of the territory and states where it is operated?

A. It is.

Q. And the significance of the heavy black line will be explained by another witness, I understand; is that correct, Mr. Blanchard?

A. I think it is, yes.

Q. Now, looking at the State of California, I notice you [fol. 1658] show a line extending from Lathrop northward. What is the terminus of that line?

A. Sacramento.

Mr. Mason: We offer the exhibit in evidence as Defendant's Exhibit No. 124.

Mr. Strouss: It is objected to as irrelevant and immaterial.

The Court: The objection is overruled. It may be admitted in evidence.

(The document referred to was received in evidence and marked, "Defendant's Exhibit No. 124.")

Mr. Mason: I take it, there are no questions on this Exhibit, Mr. Strouss?

Mr. Strouss: No.

Mr. Mason: Mr. Blanchard, have you before you a statement in one sheet entitled, "Main Track Operated Mileage of the A. T. & S. F. Railway System," and so forth?

A. I have.

Mr. Mason: We ask that this statement, which has now been distributed, be marked "Defendant's Exhibit No. 125 for identification."

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 125 for identification.

Mr. Mason: Was defendant's exhibit No. 125 prepared [fol. 1659] at your direction, Mr. Blanchard?

A. Yes, sir, it was prepared at my request by the chief engineer of the System in Chicago.

Q. Are you familiar with the underlying records from which it was prepared?

A. Yes, sir. I can state from what is prepared.

Q. Will you state from what records it was prepared?

A. It was taken from the employees' time-table, except for the second track, which didn't cover an entire operating district, in which case the chief engineer's monthly mileage reports were used. By that, the chief engineers of the grand divisions, the same as myself, render each month a mileage report.

Q. And those accumulated monthly mileage reports represent the source of the information as to the second track where it was necessary to use them; is that correct?

A. Yes, that is correct.

Q. Do you have with you in the court-room, or otherwise available in the city, the operating timetables which were used for the purposes of this exhibit?

A. I have them here.

[fol. 1660] Do you also have the monthly mileage reports to the extent that they were used?

A. No, not with me.

Q. Do you know of your own knowledge as to the correctness of the figures on this exhibit?

A. I do to the extent of the Coast Lines; otherwise, I will have to rely on the information as prepared by the chief engineer of the System, who received all of the mileage reports.

Mr. Strouss: My objection will be limited to its materiality and relevancy.

Mr. Mason: Will you require the underlying records as to the second track?

Mr. Strouss: No.

Mr. Mason: Will you say whether, in your opinion and to the best of your knowledge and belief, the exhibit is a correct reflection of the underlying sources?

A. I think it is.

Mr. Mason: Your Honor, I understand that Mr. Strouss will not require the production of the underlying records, nor object to the exhibit on the ground of its competency in so far as the production of those records might be required. Have you any questions, Mr. Strouss?

Mr. Strouss: No questions.

[fol. 1661] Mr. Mason: We offer the statement in evidence as Defendant's Exhibit No. 125.

Mr. Strouss: It is objected to as irrelevant and immaterial.

The Court: The objection is overruled. It may be admitted.

(The document referred to was received in evidence, and marked, "Defendant's Exhibit No. 125.")

[fol. 1662] Mr. Strouss: I just want to ask a question. That "East Bd" means eastbound track and "West Bd" means westbound track?

A. That is right.

Mr. Strouss: That is the double track territory?

A. Double track territory.

Mr. Mason: Mr. Blanchard, have you made up a total of the operated mileage of the system and have you that figure available?

A. No, I do not.

Q. This exhibit merely shows the total trackage without attempting to show the main line mileage?

A. This is the main track operated mileage between Chicago and Los Angeles.

Q. Without reference to the San Diego lines or the line to El Paso or the line to San Francisco or the Texas lines?

A. That is correct.

Q. Can you by reference to exhibit No. 124 pick out the lines which are represented on exhibit No. 125. Does it include all of the lines shown in heavy black between Chicago and Gallup, New Mexico?

A. Yes, it includes all of that shown in heavy black from Chicago to Gallup. Also the line from a point marked [fol. 1663] "Ellinor" via La Junta to Albuquerque and to the junction with Albuquerque and Dalies.

Q. Does it include the line from Gallup via Ash Fork to Needles, being the main line across northern Arizona?

A. It does.

Q. But not the rest of the Arizona lines, is that correct?

A. Nothing but the main line.

Q. Going into California, does exhibit No. 125 include the line from Barstow via Mohave to Bakersfield and thence northwesterly to Richmond and San Francisco?

A. According to this statement it is simply from Needles to Barstow to San Bernardino to Los Angeles.

Mr. Mason: Have you any other questions on the exhibit before we leave it, Mr. Strouss?

Mr. Strouss: Dalies is not shown on the map, is it?

A. Dalies is the point of intersection of the two lines west of Belen where you can see the little line here (indicating).

Mr. Mason: There is perhaps another explanation on exhibit No. 125, Mr. Blanchard. Take the first item, Los [fol. 1664] Angeles Division, Third District. You show first single track 57.4 miles and then in separate columns "Eastbound Track" and "Westbound Track" each of them 14.1 miles. Will you explain the significance of the three columns headed "Single Track," "Eastbound Track" and "Westbound Track" in connection with that first item?

A. It is 14.1 miles of double track on the Third District out of San Bernardino towards Fullerton and Los Angeles.

Q. And the 57.4 miles are single track?

A. That is right.

Q. The total of 85.6 is made up by adding the first three items; the single, the eastbound, and the westbound?

A. Yes, sir.

Q. I notice in the Arizona Division, Second District, the eastbound track is 165.7 and the westbound, 167.6, so the two do not agree. Does that come about because the two tracks are not on the same alignment or in the same location in certain districts?

A. That is correct. They are divergent in certain localities and one line is longer than the other.

Q. Will you refer now please to a statement in three [fol. 1665] sheets, the first of which bears the title "Main Line of the A. T. & S. Ry. Co. between Los Angeles, California, and Cloyis, New Mexico." Have you that statement before you?

A. I have.

Mr. Mason: May we have the statement marked "No. 126" for identification?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 126 for identification.

Mr. Mason:

Q. Mr. Blanchard; was exhibit No. 126 for identification prepared by you or at your direction?

A. It was.

Q. From what sources was it prepared?

A. From the record profiles of the various portions of the line as covered by this particular exhibit.



Q. Are those profiles maintained as permanent records in the engineering department?

A. They are.

Q. Do you have access to them?

A. I have access to all of those from Albuquerque west. Of course to secure copies of those from the rest of the system—

Q. Those from Albuquerque west are in your office?

[fol. 1666] A. They are maintained in my office.

Q. You are familiar with those profiles both as to the coast lines and as to the other portions of the system?

A. Having been chief engineer on all of this territory, I am.

Q. Was this exhibit especially prepared for purposes of this case from those profiles?

A. That is my understanding.

Q. Are those profiles or counterpart copies of them available here in Tucson?

A. You mean the originals?

Q. Yes, the original record profiles.

A. No, they are not.

Q. Have you counterpart copies of them, are they kept in blueprint form?

A. They are kept in blueprint form but in order to get them you would have to call on the chief engineer at Chicago to get them. I can get them in my office, that is what I have there. This is compiled from all those record profiles.

Q. Do you have profiles for the territory west of Albuquerque available here?

A. I do not.

Q. Will you say whether or not exhibit No. 126 for identification [fol. 1667] is a correct reproduction of the underlying records from which it was prepared?

A. From my knowledge of the railroad, having been on all of this territory as chief engineer from Newton west I can say that this is a correct profile of the line insofar as a condensed profile can reflect all of the grade.

Q. The exhibit purports to show in certain localities the controlling or ruling grades eastward and westward. Are you familiar with those of your own personal knowledge?

A. Yes, sir, of my own personal knowledge.

Q. Can you say whether or not the showing on the exhibit of such ruling or controlling grades is correct according to your knowledge?

A. It is.

Q. I will ask you to refer to the first sheet of exhibit No. 126 for identification and to this figure of 2.2 per cent which is shown with an arrow immediately underneath the line indicating the profile at a point near Cajon, California, and ask you what that figure undertakes to show or indicate.

A. That shows the ruling grade on the eastbound track from San Bernardino to Summit.

Q. What does the figure 1.6 per cent immediately adjacent to the other figure 2.2 per cent just mentioned [fol. 1668] indicate?

A. That indicates the ruling grade on the westbound track from Victorville to Summit.

Q. Going over to the second district of the Arizona Division to a figure of 2.30 per cent shown near the location of Ash Hill or Siberia, California, with an arrow above the profile line pointing to the right. What does that indicate?

A. That is the gradient on the eastbound track descending.

Q. That is not a ruling grade?

A. No, that is in the opposite direction.

Q. Are ruling grades always shown on this exhibit below the profile line?

A. Yes, sir, that is explained by this legend.

Q. The legend to the left explains in the note?

A. Yes.

Q. The figures above the line are the down grades in the direction of the movement?

A. They indicate the gradient down grade in the direction of movement of trains. That is the maximum grade.

Q. What do the figures below the profile itself, for example, you start at the left with Los Angeles 0.0 and then go to 3.7 and 7.2 and so forth. What do those indicate?

[fol. 1669] A. The distance in miles from Los Angeles.

Q. And the figures which are opposite the vertical lines but in the center of the profile chart, what do those indicate?

A. Elevations.

Q. Elevations at those stations which are indicated by the lines?

A. Yes, sir.

Q. Does the profile portion of the chart correspond to the outline map of the railroad which appears in the upper portion of the chart as to location?

A. It does.

Q. Do the explanations you have made as to the first sheet and the figures on the first sheet apply equally to the second and third sheets?

A. They do.

Q. I notice on the map portion of the sheet, referring again to the first sheet, that the outline map of the railroad—take the district between Los Angeles and Needles for example, shows a double line from Los Angeles to Hobart and then a single line from Hobart via Fullerton to Riverside and then a double line to Cajon and two separated lines from Cajon to Summit. Will you explain what those mean? [fol. 1670] A. They mean there is double track from Los Angeles to Hobart, from Riverside to Cajon and divergent lines from Cajon to Summit.

The Court: Mr. Blanchard, from Hobart to Riverside it is single track?

A. Yes, sir, single track.

Mr. Mason: Between San Bernardino and Cajon I notice that the "E. B." appears above the map line and "W. B." appears below which is the reverse location of those indications between San Bernardino and Riverside. What does that indicate?

A. The eastbound track is on the left side as you come west until you reach a point near Victorville when the lines cross each other and then the eastbound is righthand and the westbound is lefthand.

The Court: Then there is no uniformity necessarily on the east and westbound lines?

A. You will note from the map that they cross back again.

The Court: Where the lines are parallel, what is the rule as to operation.

A. They can either be righthand running or lefthand running but those extend from certain locations to certain locations just as it is shown right here.

[fol. 1671] The Court: What I am getting at is this, if the tracks are parallel, running side by side, how does your

road customarily operate trains as to the east and west-bound traffic?

A. I don't think there is any customary manner. That depends upon topographical conditions just as I say are shown on this map, from Victorville almost to Ash Fork, west of Ash Fork the eastbound track would be the right-hand track.

Mr. Mason: All the operations on the righthand track?

A. That is east and west or running what you would call "righthand," that is, you are running righthanded.

Q. To express it this way, isn't it correct, from Victorville to a point just west of Ash Fork the eastbound track is the south track and the westbound is the north track?

A. Yes, sir.

M. Strauss: Your tracks are not necessarily always on the same grade, are they?

A. No.

Mr. Mason:

Q. From a point west of Ash Fork to where the double track ends at Dalies apparently you have lefthand operations, is that correct?

A. That is correct.

[fol. 1672] Q. Lefthand operations also prevail at the Cajon pass for a short distance between San Bernardino and Victorville?

A. From San Bernardino to Victorville is lefthand running.

Q. Reference has just been made to the separation of the eastward and westward track. Do you have an example of that between Seligman and Riordan in Arizona?

A. Yes, sir.

Q. And again in the neighborhood of Gonzales, New Mexico?

A. There are numerous places where the lines are separated and divergent on account of the grades in the line. In order to secure a flat grade, that is, ascending in the direction of traffic, the lines are divergent for the purpose of securing that flatter gradient.

Mr. Mason: We discussed some of the material appearing on the face of the exhibit without having it formally

offered, but subject to any questions Mr. Strouss may have before the offer. I am prepared to offer it.

Mr. Strouss: I have no questions. I think it has been pretty well gone over but I object to the exhibit on the [fol. 1673] grounds it is irrelevant and immaterial.

The Court: No objection on the ground that the basic records are not produced?

Mr. Strouss: No.

The Court: The objection is overruled. It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 126.")

Mr. Mason:

Q. Mr. Blanchard, you spoke about the lines being separated in order to secure a more favorable grade in the direction of movement of traffic I think?

A. That is correct.

Q. Were these lines where double track exists, for example, in northern Arizona, were both eastern and western tracks constructed at the same time or located at the same time?

A. No, it was all single track until 1910.

Q. The double track was constructed subsequent to 1910?

A. Yes, sir.

The Court: As a matter of fact, you finished the last of it last year, didn't you?

A. That is right.

Mr. Mason: Mr. Blanchard, have you prepared an exhibit to show the dates of the completion and placement in [fol. 1674] service by years of the various sections of the second track in the state of Arizona?

A. I have.

Q. Have you that statement before you?

A. Yes, sir.

Q. Consisting of a single sheet?

A. Yes, sir, a single sheet listing by mileposts and years the date of construction of the second track.

Mr. Mason: Your Honor, we present this now in type-writing with the understanding that it will be replaced by a printed copy later.

Q. Was this prepared by you from your own records?

A. It was.



Q. Has it been compared to determine whether it is true and correct?

A. It has. It was made from our second track construction records.

Q. Did you make it since your arrival in the city?

A. I have.

Q. Are the records from which it was prepared available here in the city or in the courtroom?

A. They are available here.

Q. I take it since you prepared it you have also compared it to determine whether it is true and correct?

A. It is, except for the length in miles as shown in decimal, that is, 387.4 does not check the exact mileage from state line to state line. Naturally you cannot carry all the decimals so as to make an exact check.

Q. The figure 387.4 is a correct addition of the miles above, is it?

A. Yes, that is a correct addition of the miles as shown in decimal.

Q. But it includes either slightly more or slightly less than the total length of the line within the state boundaries themselves?

A. Correct.

Q. The job of double tracking does not necessarily commence at the state boundary or end exactly at the state boundary, does it?

A. It begins at the state boundary of New Mexico and Arizona but it doesn't go to the Arizona-Colorado inasmuch as it is right in the middle of the bridge across the Colorado River.

Q. You mean the Arizona-California?

A. Arizona-California, over which we have a gauntlet track.

[fol. 4676] Q. Will you describe just what you mean by "gauntlet track"?

A. Gauntlet track is where the rails of the two tracks are continuous across a span or a bridge, but they are only a few inches from each other. In other words, you run through that bridge on a separate track for each main line, but you don't have a double track in that the two are separated.

The Court: Two trains can not pass on the bridge at the same time?

A. That is correct.

Mr. Mason: It is not a single track in the sense that there are any switches or connections between the two tracks?

A. That is correct; they both operate on their own line over the bridge, but they cannot operate over it at the same time.

Mr. Mason: We will ask that the statement to which the witness has referred be marked for identification as Defendant's No. 127.

The Court: It may be marked.

The Clerk: Defendant's exhibit 127 for identification.

Mr. Mason: Have you any questions, Mr. Strouss?

[fol. 1677] Mr. Strouss: No questions.

Mr. Mason: We will offer the statement in evidence as No. 127.

Mr. Strouss: Objected to as irrelevant and immaterial.

The Court: The objection is overruled. It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 127.")

Mr. Mason: Mr. Blanchard, have you before you a statement in one sheet entitled "Weight of Rail in Main Track Operated Mileage of A. T. & S. F. Railway System"?

A. I do.

Mr. Mason: May we have this statement marked "Defendant's No. 128 for identification"?

The Court: It may be marked.

The Clerk: Defendant's exhibit 128 for identification.

Mr. Mason: Was this statement prepared by you or at your direction, Mr. Blanchard?

A. It was prepared under my direction.

Q. From what source was it prepared?

A. It was prepared from the rail record made by each chief engineer of grand divisions, submitted to the Chief Engineer of the System.

[fol. 1678] Q. Is that rail record made by the several chief engineers of the grand divisions? A permanent record maintained in their offices?

A. It is.

Q. Do you have that permanent record so far as the Coast Lines is concerned?

A. I do.

Q. In your office at Los Angeles?

A. Yes, sir.

Q. Has the exhibit been compared against the underlying sources to determine its correctness?

A. In so far as the Coast Lines is concerned, it has been. I cannot say for the rest of the line, but I presume it has.

Q. Will you say whether or not the exhibit is a correct reflection of the underlying records to the best of your knowledge and belief?

A. It is.

Mr. Mason: Do you desire the underlying records produced in connection with this, Mr. Strouss?

Mr. Strouss: No.

Mr. Mason: Have you any questions on the exhibit, Mr. Strouss, before it is offered?

Mr. Strouss: These districts and parts of districts are [fol. 1679] the same as shown on defendant's exhibit No. 125; is that correct, Mr. Blanchard?

A. Yes, they are just exactly the same.

Q. The divisions and districts are as shown on Defendant's Exhibit No. 125?

A. Yes. I have forgotten what number this is, but if this is No. 126—

Mr. Mason: That is right, that is 126.

Mr. Strouss: That is all the questions.

Mr. Mason: So that this exhibit No. 128 for identification corresponds as to territory with both 125 and 126; is that correct, Mr. Blanchard?

A. Yes, sir.

Mr. Mason: We offer the exhibit in evidence as defendant's Exhibit 128.

Mr. Strouss: Objected to as irrelevant and immaterial.

The Court: The objection is overruled. It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 128.")

Mr. Mason: Mr. Blanchard, addressing yourself particularly to the portions of your lines in Arizona and New Mexico, and California, in other words, the Coast Lines, I notice that Exhibit 128 indicates that both the eastbound

[fol. 1680] and westbound tracks in single track, where single track is found, are laid largely with 110-112 pound rail, with some 130-131 pound rail, and a comparatively small amount of 90 pound rail. Does this 110-112 pound rail, where it is in the track of the Coast Lines, indicate anything is that a heavier weight of rail than was previously in those lines?

A. To answer that question, it depends on the date that you might have in mind.

Q. The lines certainly were not originally constructed with 112 pound rail?

A. Oh, no.

Q. Do you know, and if so, will you state, whether in 1912 they were predominantly 110-112 pound, or 130 pound, as they are shown today?

A. I don't have the 1912 records with me, but from my knowledge of weights of rail on the Santa Fe System at that time, 90 pound was the heaviest of record, and ranged from that down to 75.

Q. Now, do you know, and if so, will you state whether in 1922 the Coast Lines had the weights of rail which are shown in there as of the present time?

Mr. Strouss: I will make an objection to the relevancy on this. I cannot see where the history of the weight of [fol. 1681] rail can possibly affect the question of the constitutionality of the train limit law so far as this defendant is concerned.

The Court: Well, I take it, it is to show changed conditions since the enactment of the law.

Mr. Mason: Yes, we refer to that part of the affirmative defense, I think it is paragraph 3 of part of the Answer, in which we allege that since 1912, and more particularly since 1920, great improvements have taken place, both in Arizona and elsewhere.

The Court: The objection is overruled.

Mr. Strouss: I just want to say that the Santa Fe is not a party to this action. The fact that they have alleged that, still, doesn't make it a matter which is relevant to the legal question before the Court.

Mr. Mason: That is ground we have gone over before.

The Court: I will overrule the objection.

A. As to 1922, I cannot say. I came to the Coast Lines in 1929.

Mr. Mason: Addressing yourself to 1929, what was the situation as to the weights of rail in the Coast Lines in the [fol. 1682] territory shown on Exhibit No. 128?

A. Practically all 90-pound or less.

Mr. Strouss: My objection, of course, goes to this without repetition.

Mr. Mason: Oh, yes, it is understood.

The Court: We will take a brief recess, and during the interlude the Court will be here for another matter.

(Thereupon, a short recess was taken, after which proceedings were resumed as follows:)

The witness M. C. Blanchard was recalled to the stand and testified further as follows:

Mr. Mason: You recall the dates when the 90-pound rail was replaced by the 110-130-pound shown on Exhibit 128?

A. No, I can't with the record that I have here tell you the date the replacement occurred.

Q. Has the Santa Fe had any program of rail replacement on the main lines since the year 1929?

A. We have had the same program of replacement that all railroads do. When—

Mr. Strouss: I move that that part be stricken, if the Court please.

The Court: Yes, it may be stricken. We are just concerned with the Santa Fe, Mr. Blanchard, at this time.

Mr. Mason: Read the question.

(The question was read by the reporter.)

A. We replace rails of certain weight after they have had a life of a certain time, dependent on the tonnage that goes over the particular stretch of track or rail during that time.

The Court: Well, when you replace these rails, that have seen their service, do you replace them with heavier rails?

A. Yes, sir. 90-pound rail is replaced or has been replaced with 110 and 112-pound, and on the heavy grades with 130 and 131-pound.

Q. What do you mean by "heavy grade," Mr. Blanchard?

A. Well, like from Williams to Supai.

Q. In other words, the heavier the grade the heavier the rail; is that true?



A. That is correct.

Mr. Mason: On the first district of the Arizona Division, you show two-and-a-half miles of 130-131-pound now in the track. Is that on curve or grade territory?

A. The first district of Arizona?

Q. Yes.

A. Yes, that is on what we call "mountain heavy grade" [fol. 1684] territory.

Q. And you show here, the Albuquerque division, the third district, 6.3 miles of 130-131 pound. Would that be in the district between Ashfork and Seligman, or some other comparable mountain territory?

A. Albuquerque— what territory is that?

Q. The third district.

A. Yes.

Q. You show 6.3 miles of 130-pound.

A. The second district also has considerable. I might say that our present standard for all main line track in the replacing of existing rail is 131-pound.

The Court: That is irrespective of grade?

A. Irrespective of grade. That is all the rail we are now laying and have laid in the past year, the renewal if rail is 131-pound.

Q. Mr. Blanchard, that last stretch of double track you just completed near Holbrook, is that 131-pound rail?

A. Yes, sir.

Mr. Mason: Does the 110-pound rail in the track in the Coast Lines represent any improvement over the 90-pound rail which, according to your statement, generally prevailed in 1929?

[fol. 1685] A. The heavier rail section, of course, provides a better and more substantial track.

Q. Is it more expensive to lay 110-pound rail than it is to lay 90-pound rail, both being new?

A. The labor of laying is about the same, but the cost of material is more in that the 110-pound rail weighs 20 pounds per yard more than the 90-pound rail.

Q. You buy rail by the ton rather than by the yard?

A. By the ton rather by the yard.

Q. Does the 130-pound rail now being used in replacement represent any improvement over the 110-pound?

A. By the same process of reasoning, yes; it gives you a much more stable track, and a track that can be maintained with less expense than the lighter section of rail.

Q. As between the 90-pound rail on the one hand and the 110-pound on the other, and the 130-pound rail in the same district, which permits the higher speed of train operation?

A. We have no restrictions with respect to the track as regards the weight of rail as between the 90- and the 110 or the 130.

[fol. 1686]. Q. Do you have any restriction as to the weight of equipment, locomotives, or cars which may move over your system as between 90-pound rail on the one hand and the heavier weights on the other?

A. We do not.

Q. Will you say, from your experience as an engineer, whether the use of heavy rail in the track generally permits the use of heavier types of equipment?

A. It does.

Q. Will you say whether or not the use of heavy rail permits the operation of trains at higher speeds?

Mr. Strouss: I want to add to my objections here that it is calling for a conclusion as well as being irrelevant and immaterial.

The Court: Yes, I will sustain the objection.

Mr. Mason: Your Honor, I thought I had qualified the witness as being an engineer of long experience and high attainments, well qualified to express such an opinion, and certainly such an opinion is relevant, because in our affirmative Answer we have alleged that these improvements were for the purpose of permitting higher speeds of heavier equipment, and that they have achieved that [fol. 1687] purpose.

Mr. Strouss: He has already testified there are no speed restrictions or weight restrictions based on the weight of rail.

The Court: That is true. I will adhere to the ruling.

Mr. Mason: Do I understand that you have testified that you have no restrictions as to weight of equipment on any part of the Coast Lines, that is, on main lines?

A. We do not.

Mr. Strouss: I don't think that is what he testified to.

Mr. Mason: Will you state generally whether or not that is the fact?

Mr. Strouss: Do you mean based on weight of rail?

Mr. Mason: I will address myself first to weight of rail, yes. Do you have any restrictions as to weight of equipment which may be operated over any part of the main lines on the Coast Lines based on weight of rail?

A. We do not.

Q. Do you have any restrictions as to the weight of equipment which may be operated on those lines, based on any other considerations?

[fol. 1688] A. Well, from time to time the roadbed may become soft by reason of extensive rains or storms, and you may have a local slow order that limits speed at some particular point, but that is a temporary condition.

Q. Does that local slow order because of track conditions, limit weight at the same time?

A. It doesn't limit weight, just the speed at which trains may be operated.

Q. Do you have at the present time any general restriction of weight of equipment or of speed as opposed to a temporary local condition?

A. We do not. I take it, from that, you are talking about physical conditions of track?

Q. Yes, from your standpoint as engineer in charge of the Coast Lines.

A. We do not.

Q. Have you before you a statement in one sheet, Mr. Blanchard, entitled "Class of Ballast in Main Track Operated Mileage of the A.T. & S.F. Railway System?"

A. I do.

Mr. Mason: May we have the statement marked as defendant's Exhibit 129?

The Court: It may be marked.

[fol. 1689] The Clerk: Defendant's Exhibit No. 129 for identification.

Mr. Mason: Was this exhibit prepared at your direction, Mr. Blanchard?

A. It was.

Q. From what sources?

A. From records maintained by each chief engineer of the grand divisions between Chicago and the Coast.

Q. Are those records permanently maintained in the offices of the several chief engineers of the grand divisions?

A. They are.

Q. Do you have a record, for example, relating to the Coast Lines in your office in Los Angeles?

A. Yes.

Q. Will you state whether the exhibit is a correct reflection of the underlying records from which it was prepared?

A. To the best of my knowledge, yes. I can speak affirmatively so far as the territory Albuquerque west is concerned.

Q. You are very familiar with the territory Albuquerque west in your position?

A. Yes.

Q. But this was prepared entirely from records, was it? [fol. 1690] A. Entirely from records.

Mr. Mason: Mr. Strouss, will you want those records produced for the purpose of this exhibit?

Mr. Strouss: No, I will not require it.

Mr. Mason: Do the showings of districts and divisions on exhibit 129 for identification correspond to those shown on exhibit 126?

A. Yes.

Q. And this covers the same territory, does it?

A. Yes.

Mr. Mason: Have you any questions on the exhibit, Mr. Strouss?

Mr. Strouss: I notice in the footnotes, indicated by plus and double-plus signs in two instances, the mileage shown is ballasted with native material. Where is that, and what is the nature of that material?

A. I am looking for that.

Mr. Mason: That is both districts of the Arizona Division.

A. That is gravel which is taken from the gravel pits along the line of the railroad.

Mr. Strouss: It is not in the nature of volcanic cinders that you find in the northern part of this state?

[fol. 1691] A. No, it is the native gravel beds that we find along the railway, for illustration, at Hackberry.

Mr. Strouss: That is all.

Mr. Mason: We offer the statement in evidence, as Defendant's Exhibit 129.

Mr. Strouss: Objected to as irrelevant and immaterial.

The Court: The objection is overruled. It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 129.")

Mr. Mason: Mr. Blanchard, has there been any change in the character, nature, or depth of the ballasting on the Santa Fe Coast Lines since 1929?

A. A very good portion of the mileage has been resurfaced and reballasted, and in some cases the depth has been increased.

Q. Have you changed the kind of material used in ballasting the Coast Lines?

Mr. Strouss: My objection to the relevancy and materiality goes to this testimony as well as to exhibit.

The Court: Yes. The objection is overruled.

Mr. Mason: Have you changed the kind of material [fol. 1692] used in ballasting any part of the Coast Lines?

A. Not generally. The territory from Belen and Albuquerque to Gallup is ballasted with crushed rock and volcanic cinders, and from Gallup to Yampai almost entirely with volcanic cinders, Yampai to Topock, or the Arizona-California line, with the natural gravel from these gravel pits.

Q. Now, this natural gravel from the gravel pits which you refer to, I think, as native material—

A. That is right.

Q. Will you say whether or not that is a better or a poorer grade of ballast than the crushed rock or volcanic cinders?

Mr. Strouss: That is objected to as immaterial and calling for a conclusion.

The Court: The objection is overruled. He may answer.

A. For the territory in which the gravel is installed, I think it is on a par with the rock or volcanic cinders in those territories where we have that kind of ballast. Our ballast usually is selected to meet the conditions that prevail in certain locations.

Mr. Mason: Do you have any standard of depth of ballast [fol. 1693] that you employ on the main line?

A. Ten inches, that is from the bottom of the tie to the sub-grade.

Mr. Strouss: My objection, of course, to the relevancy and materiality goes to this without my repeating it.

The Court: Yes. The objection runs to all this.



Mr. Mason: Is the main line of the Coast Lines ballasted to that standard of ten inches depth?

A. Practically the entire distance. There may be a few short stretches that have eight inches.

Q. Do you have any bridges on the lines west of Albuquerque?

A. Many of them.

Q. Do you have any restrictions as to weight of locomotives because of those bridges?

A. We have no restrictions as to weight. We have two bridges on which the speed of the locomotive operating over the bridge is restricted.

Q. Where are those bridges?

A. On the Canyon Diablo and the other is the Colorado River bridge at Topock.

Q. The gauntlet track bridge at Topock over the Colorado River?

A. Yes, sir.

Q. Do you know, and if so, will you state, whether there has been any work toward strengthening or increasing the capacity of the bridges on the Coast Lines?

A. As our bridges are renewed, the new type of structure is superior to that which it replaces, particularly pile trestles; in that they are now nearly all what we call a ballasted deck type of structure, and they are stronger in their designing of deck and in number of piles. Steel bridges have been either redesigned or reinforced to handle the heaviest type of power that we have.

Q. Do you know, and if so, will you state what the actual loading is of the heaviest type locomotive operated by the Santa Fe in the district west of Albuquerque?

A. I can give you that from an engine diagram.

Q. Is that an original permanent record?

A. Yes, sir.

Q. Will you please give it from the engine diagram?

The Court: Mr. Mason, while he is looking up that information, of course, over Mr. Strauss' objection, the Court has admitted a lot of this detail testimony with reference to the Santa Fe which I believe you did not go into with reference to any of the other sixteen railroads. May I ask if your purpose in offering this testimony from this road is by reason of the fact it is the only

other Class One railroad operating across the State of Arizona, showing comparable conditions?

Mr. Mason: We think the situation of the Santa Fe, of course, addresses itself a great deal more closely to the issues in the case than the situation of some other railroad, and consequently we are developing the Santa Fe more in detail. It is because of the fact that the law operates to restrict the Santa Fe's operations much the same as it does ours and the Santa Fe situation is necessarily much more worth while to develop from that standpoint.

Mr. Booth: Also, we want to lay a foundation for some safety statistics on the Santa Fe; that is part of the purpose.

The Court: Well, I assumed that that was the reason you were doing that. I am giving you a little more latitude on this road. I think if we were going into all this detailed information on some Class One road operating in the East, [fol. 1696] it couldn't be of very much probative value to this Court. In those instances, you have merely touched on general conditions; here you are going into considerable detail. You may proceed.

[fol. 1697] Mr. Strouss: Of course as I pointed out to the court, the Santa Fe is not a party to this action and so far as the question of the law affecting their operations is concerned this court cannot in this action determine that. We can't try that here.

Mr. Mason: Perhaps the court cannot in this action determine whether the law is unconstitutional as applied to the Santa Fe but it can use the results of Santa Fe operation in Arizona and in adjacent states as some measure of the reasonableness or unreasonableness or other restrictive character of the law as a restriction upon interstate commerce and by comparison of what the law does to the Santa Fe and what the law does to the Southern Pacific and what the absence of the law in some of the other states permits as to those railroads it can determine whether the law as applied to the Southern Pacific is unreasonable and therefore in violation or not in violation of the due process clause of the state and Federal constitutions.

Mr. Strouss: I don't think there is any logic to that argument. The law might be a hindrance to interstate commerce on the Santa Fe and not on the Southern Pacific. The fact that it is on the Santa Fe wouldn't be any proof

[fol. 1698] that it is on the Southern Pacific. The operation on the Southern Pacific must stand or fall on its own feet. The same might be true so far as the safety of operations are concerned. Unless conditions are shown to be similar or sufficiently similar that a legal conclusion could be drawn that the matter of operation so far as safety is concerned has some probative value there wouldn't be any materiality to that evidence even so far as safety is concerned. Certainly the question of whether it is a burden on interstate commerce cannot be shown by proving that it is a burden upon interstate commerce so far as the Santa Fe is concerned.

The Court: I am inclined to agree with you on that. If the witness is prepared to answer the question you may proceed.

A. 5,000 class engine has axle load in round figures of 75,000 pounds.

Mr. Mason: Is that the heaviest type of locomotive that the Santa Fe presently operates in this territory?

A. Yes.

Mr. Strauss: May I ask when you say "in this territory" what do you mean?

Mr. Mason: On the coast lines.

[fol. 1699] Mr. Strauss: The entire coast lines?

Mr. Mason: Yes, including the Arizona lines.

Q. Do those locomotives pass over the main lines in Arizona?

A. They are not regularly used on the coast lines but they have been assigned from time to time and have operated over the coast lines.

Q. Will you say whether or not the physical plant, by which I mean the rail, the roadbed, the bridges, and the other fixed properties are adequate to bear the weight and to withstand the operation of locomotives having a load heavier than the axle load of 5000 class that you have just described?

Mr. Strauss: I am going to particularly call the Court's attention to my objection there as to relevancy and materiality. What it might be able to do and what it is doing are getting pretty far afield.

The Court: Overrule the objection; you may answer.

A. I can't conceive of a locomotive having a much heavier axle load than 75,000 pounds. If you are going to

build a locomotive with greater tractive effort it would probably spread the weight over a greater number of drivers.

[fol. 1700] Mr. Mason: Your exhibit No. 126 indicates in the territory west of Albuquerque and particularly in Arizona there are several districts where grades in excess of one per cent are encountered and in ruling grades in one instance as high as 1.8 per cent. Are those grades encountered in mountainous territory?

A. Yes, they are in mountainous territory.

Q. Are there any curves on main lines in those territories?

A. Yes, sir.

Q. Is the line today in the same condition as respects existence of grades and curves as it was in 1929 or in earlier years or have there been any elimination of grades and curves?

A. Grade reductions have been made. Starting from Albuquerque now the grade reduction eastbound between Gallup and North Guam, the old grade was reduced from one per cent to six-tenths, you will notice on this profile, descending from one per cent grade which was on the original single track line, but in double tracking we built a divergent line and reduced that grade to six-tenths.

The Court: Did I understand you to say that was west of Gallup?

A. East of Gallup.

[fol. 1701] The Court: Toward the Continental Divide?

A. That is right, between Gallup and Gonzales. The grades between Williams and Ash Fork eastbound were reduced at the time of the construction of the second track which I think was in 1911; the eastbound grade being 1.8 per cent as against a westbound or descending grade of 2.6 per cent, the old original line or single track line or 2.6.

The Court: Is that the heaviest grade you have on your railroad in the state of Arizona?

A. Yes, that is the heaviest we have in Arizona.

The Court: Between Ash Fork and Williams?

A. That is right. The same was done in constructing the second track between Crookton and Seligman; westbound or ascending track is now 1.42 per cent grade as against the original 2.8 per cent. Another reduction was made between Yampai and Peach Springs, the old or original

line being 1.8 per cent grade and the second track or eastward track was constructed on a 1.42 per cent grade. West of Kingman, between Kingman and Griffith the second track was built as a divergent line and the eastward track reduced from 1.8 per cent maximum grade to 1.42 per cent.

Mr. Mason: Have you had any construction or reconstruction [fol. 1702] which has had the result of eliminating curves?

A. Many curves have been reduced and eliminated in the course of second track construction and independently thereof particularly in the last five years.

Mr. Mason: I think that is all that we have of the witness, if we may take a recess at this time.

The Court: The court will be at recess until 2 P.M.

(Thereupon the court stood at recess until 2 o'clock P.M. this day, January 6, 1941.)

[fol. 1703]

January 6, 1941, Two o'clock P.M.

Proceedings were resumed at this time as follows:

The Court: You may come forward, Mr. Blanchard, and take the witness stand. Have you finished with your direct examination, Mr. Mason?

Mr. Mason: There were just one or two questions that I had; they are more or less in the way of explanation.

The witness M. C. Blanchard, was recalled to the stand and testified further as follows:

Mr. Mason: First of all, Mr. Blanchard, I think in qualifying you at the outset we didn't develop your academic training prior to your first taking employment with the Santa Fe. Will you tell us of that?

A. I am a graduate civil engineer.

Q. With the degree of C.E.

A. No, with the degree of bachelor of science and engineering; also, a member of the American Engineering Association, and a member of the American Society of Civil Engineers.

Q. Now, Mr. Blanchard, in answering a question from the Court, I think you have stated that the heaviest grade in Arizona opposed to traffic was the 1.8 per cent grade on [fol. 1704] the eastward line between Ashfork and Supai, is that correct?



A. That is the heaviest grade ascending in the direction of traffic on the main line.

Q. There are heavier grades in Arizona on other lines than the main line between Needles and Gallup, are there not?

The Court: My question, Mr. Mason, really had reference to the main line.

Mr. Mason: We recall, of course, the grade between Skull Valley and Iron Springs on the Phoenix-Prescott line.

The Court: The Court is more or less familiar with the main lines, having ridden them frequently.

The Witness: Of course, we have descending grades greater than 1.8; as shown by this profile.

Mr. Mason: One other thing, Mr. Blanchard, the outline map of the system, exhibit 124, and also the profile exhibit, No. 126, both show an alternate line between Dalies, that is the junction point immediately west of Belen; and Ellinor, Kansas, one line via Clovis, Amarillo and Wellington, and the other line via La Junta and Dodge City. Is it the fact that there are two alternate main lines between those points?

A. Yes. From Dalies to Belen via Amarillo, Wellington to Emporia is one route.

[fol. 1705] The Court: That is what you call the Belen cut-off?

A. That is the so-called Belen cut-off; and the other is via Albuquerque, La Junta, Dodge City, Newton to Emporia.

Mr. Mason: Now, is one of those lines used predominantly for a particular kind of traffic?

A. The line via Belen to Amarillo and Wellington is predominantly a freight traffic line.

Q. And what of the line via La Junta and Dodge City?

A. It is used almost exclusively for passenger traffic, with the exception of such local freight as originates in that territory.

Q. And I take it that your Exhibit No. 126 will show a comparison of the ruling grades on the passenger line via La Junta and the freight line via Amarillo?

A. Sheet One of that exhibit shows the maximum ruling grade on the line from Belen via Amarillo being one and one-quarter per cent between Belen and Mountainair; Sheet Three shows the maximum grade on the line via La Junta

being three and one-half per cent between Trinidad and Wooten, and 3.3 per cent between Belen and Raton. We [fol. 1706] also have three per cent grade between Glorietta and Lamy.

Mr. Mason: I think that is all, Mr. Blanchard, for the time being. Do you wish to cross-examine now, Mr. Strouss?

[fol. 1707] Cross-examination.

By Mr. Strouss:

Q. Mr. Blanchard, this morning you testified concerning the weight of rails used on the Santa Fe system and replacement of light rails by heavier rails. I believe you testified there were no restrictions on the Santa Fe either as to weight of equipment or speed by reason of the weight of the rails?

A. Correct.

Q. Of course it is true that a heavier rail will last longer in proportion to its weight than a lighter rail?

A. That is right.

Q. The life of the rail is longer?

A. The life of the rail should be longer for the same tonnage that goes over the rail for the life of it.

Q. In proportion to the weight of the rail?

A. I couldn't say whether it is directly proportional or not but some of it.

The Court: What is the average life of the rail, how long can they be safely used?

A. That depends very much on the amount of traffic that goes over the rail. If there is a very heavy tonnage over [fol. 1708] the rail it may have to come out in ten or twelve years. If it is a light tonnage it might run twice that long.

By Mr. Strouss:

Q. There might be other conditions affecting the life of it too?

A. Roadbed conditions affect to some degree the length of time a rail will be satisfactory. There are also defects in the rolling of rail which limit the length of its life.

Q. Develop transverse fissures possibly?

A. Yes, sir.

Q. You were asked this morning concerning the highest rating of your locomotives as I understood the question.

Mr. Mason: No, it was the axle loading of the locomotives.

Mr. Strouss: When you answered this morning as to the 5,000 class locomotives, 75,000 pounds, you were speaking of the tractive effort of the locomotive, not of the tonnage rating?

A. No, I was talking of the average load on each axle of the locomotive.

Q. You were not speaking of the tractive effort?

A. No.

Q. That is the weight of the locomotive itself?

[fol. 1709] A. That is right. It was the weight per driver, driving axle.

Q. That has nothing at all to do with its tonnage rating?

A. Nothing whatever.

Mr. Strouss: I think that is all the questions I have.

Redirect examination.

By Mr. Mason:

Q. When you say that the weight of the locomotive on the drivers has nothing to do with its tonnage rating I take it you mean that the two are not necessarily interrelated?

A. That is correct.

Q. The fact is the larger the locomotive the greater its tractive effort?

A. That is correct.

Q. And also the greater the weight on the driver but not necessarily?

A. Not necessarily, but it usually follows.

Recross examination.

By Mr. Strouss:

Q. There would be a great many other factors that would enter into the question of its tonnage rating?

[fol. 1710] A. That is correct. You can have an engine with fairly light axle loading, depending on the type of engine with a much greater tractive effort than you could one with extreme weight on drivers. It depends on the number of drivers and how the weight is distributed.

Q. Track conditions also at different localities would be factors in determining the tonnage rating of a locomotive in that particular locality or territory?

A. With a certain tractive effort, of course it exercises that over level grades or ascending or descending grades.

Mr. Strouss: That is all.

(Witness excused.)

G. K. THOMAS was called as a witness in behalf of the defendant and being first duly sworn testified as follows:

Direct examination.

By Mr. Mason:

Q. Will you please state your name and your residence to the reporter?

A. G. K. Thomas, Topeka, Kansas.

[fol. 1711] Q. Do you hold an official position with the Santa Fe?

A. Yes, sir, signal engineer system.

Q. As signal engineer for the system over what territory of the Santa Fe does your jurisdiction or duties extend?

A. The entire Santa Fe system from Chicago to the Pacific Coast and south to the Gulf.

Q. Did you have a technical training before you were employed by the Santa Fe? -

A. Yes, sir, in electrical engineering.

Q. Are you a graduate in electrical engineering?

A. It did not carry a degree with it but it was a technical college in London, England, three-year course in electrical engineering.

Q. When were you first employed by the Santa Fe?

A. In January, 1909.

Q. Have you been continuously employed since?

A. Yes, sir.

Q. What was your first position with the Santa Fe?

A. I was employed as a laborer - I might say in the signal gang, construction gang, installing automatic block signals in Kansas and Illinois. Later I became signal maintainer [fol. 1712] in charge of a section of signalling, maintenance of signalling on three different sections successively in Kansas and Illinois. In 1911 I became division signal fore-

man or signal supervisor of the eastern and Kansas City divisions having charge of maintenance of signal equipment between Emporia, Kansas, and Kansas City. In 1913 I was promoted to the position of chief draftsman, performing design of signal installations and estimating and so forth for the eastern lines of the Santa Fe at the general office in Topeka. In 1914 I became assistant signal engineer in the system signal engineer's office at Topeka and in 1934 I became signal engineer system.

Q. Your present system?

A. That is my present position.

Q. In your present position what are your particular duties?

A. General supervision over the design, installation, and maintenance of signal equipment on the Santa Fe system.

Q. Are you acquainted with the activities of the Association of American Railroads with respect to signalling?

A. Yes, sir.

[fol. 1713] Q. Do you participate in any of those activities?

A. I have been active in the various committees handling signal problems in the signal section of the Association of American Railroads and its predecessor organizations during the last twenty years, and I am now chairman of the signal section of the Association of American Railroads.

Q. Addressing yourself to 1909 when you first came to the Santa Fe, Mr. Thomas, were there automatic block signals installed on the Santa Fe at that time and if so to what extent?

A. There were very few installations of automatic block signals on the Santa Fe in 1909 chiefly in the vicinity of yards and other special places and most of them were in Illinois, Kansas, and some in Colorado but at that time there were none in the state of Arizona.

Q. When was the installation of block signals generally on the system commenced?

A. About 1911 we began to install automatic block signals on a larger scale and this was continued until by 1932 the entire transcontinental main line was equipped with automatic block signals from Chicago through to San Francisco, Los Angeles, and San Diego.

Q. Did that cover all the main line in Arizona, New Mexico, and California adjacent?

[fol. 1714]



A. Yes, that covered the entire main line in those states.

Q. Will you describe briefly the signal system predominately in use on the Santa Fe main lines?

A. The signals consist of a steel structure or post mounted beside or over the track and carrying thereon a semaphore arm and a colored light. Except in the later type of signals which have been installed for a good many years now the semaphore arm is not used and the signal consists only of a powerful light hooded and lensed so that it can transmit its indication a long distance in daytime as well as night.

Q. How are the signals arranged as to the indications which they display?

A. They display three different aspects. When the arm is horizontal and a red light is displayed the signal means "Stop"; when the arm is at forty-five degrees or the yellow light displayed, the signal means "Caution" and when the arm is vertical or a green light displayed it means "Proceed."

Q. Are these signals — by reason or because of the movement of a train through the territory to which the signal relates?

A. Yes, as the train advances along the track it sets up [fol. 1715] its own protection automatically and continuously by affecting electric currents in the rail resulting in the signal to the rear of the train assuming the "Stop" aspect while the next signal further to the rear indicates "Caution" and the other signal "Proceed."

The Court: What are the lengths of those blocks?

A. The blocks vary in length, depending upon local conditions, speed, and other factors but in general they run about two miles. In some places they might be as short as one mile and in other places as long as three miles.

Mr. Mason: Do the automatic signals in single track territory operate so as to protect the train from the front as it advances?

Mr. Strouss: For the purpose of the record I want to show my objection to the materiality and relevancy of the signal system of the Santa Fe.

The Court: I am going to let Mr. Mason state, if he will, the defendant's position with reference to this testimony. What is its materiality? What is the purpose of —

Mr. Mason: It addresses itself, Your Honor, to the precise allegation in the answer which states that improvements [fol. 1716] have been made in the signal system. Of course we described them and show they have been improved and it is necessary as a part of the showing of the improvement to show what they are at the present time as well as what they have been in the past.

The Court: I take it that Mr. Strouss' objection primarily is to this effect, that while that might be very well for the Southern Pacific to show all this it is not material for you to show what the conditions on the Santa Fe are.

Mr. Strouss: That is true, Your Honor, that is my position here upon this, and even as to the Southern Pacific I would say that the mere fact that the allegation is to that effect is not controlling. It would still have to be material in order to be admissible but here certainly the showing on another railroad, I can't see where there is any relevancy or materiality.

Mr. Mason: We certainly intend to compare our operation on the Southern Pacific with the Santa Fe, in Arizona as well as without Arizona, and we shall show that our signal system is somewhat similar to theirs and operates in much the same fashion. That is one of the conditions of comparability of course and it is necessary to show what the conditions are on the Santa Fe. We cannot show what the [fol. 1717] Southern Pacific is at the same time and by the same witness because he probably is not competent to describe except in general terms what the composition of the system may be. It would probably be preferable to call a witness from the Southern Pacific for that purpose. If this is not material then the allegation in Paragraph 3-A is not material and does not constitute a defense. Opportunity was open to the opposition to have stricken that out. They moved to strike certain parts of this defense and certain parts were stricken and others were not. They didn't pay any attention apparently to Paragraph 3-A, they let it stand as being material to the defense as far as a motion to strike might have taken it out. Paragraph 3-A refers not only to the operating conditions on the defendant's line alone but, "Railroad operating conditions, both on defendant's lines in Arizona and elsewhere, and on railroads throughout the United States generally, differ substantially from the operating conditions which existed in 1912," and then refers particularly to signals. "Block signals and other safety

devices have been installed." That is not on defendant's lites alone. We are referring to operating conditions throughout the United States generally. "The greater part [fol. 1718] of these improvements has taken place since 1920, and has been accomplished by the expenditure of large sums of money and have been made largely for the purpose of increasing the lengths and the loading of trains and promoting the safety of handling thereof." All of this goes to a comparison between ourselves and the other railroads and the allegation that in Arizona we would be able, if it were not for the artificial restriction of the law, to operate much more than 70 freight cars per train and much more than 14 passenger cars per train with the same character of safety and expedition which obtains on other railroads in other parts of the United States. We wish also to make a direct comparison between our railroad and the Santa Fe from the standpoint of safety—

Mr. Strouss: With the exception of one point I think I have heretofore stated my position. I want to say again that it is not incumbent upon a pleader to move to strike in order to be in a position to object to evidence. I know of no rule of law to that effect and no case has ever so held.

The Court: I agree with you on that.

Mr. Strouss: The mere fact that this has been pleaded [fol. 1719] has nothing to do with whether it is relevant or material except if it were a matter that might be material otherwise and were not pleaded there probably couldn't be evidence introduced but the mere fact that irrelevant matter is pleaded does not make the evidence admissible when offered.

The Court: The objection is overruled. You may answer the question.

Mr. Mason: I think the question was answered and this was simply a running objection. Will you read the question, please?

(The last question was read by the reporter.)

Mr. Strouss: I just want to add that the objection which was originally made as to the materiality and relevancy of this type of evidence, at that time I stated my position and if the court wants me to go over that again I can do it.

The Court: No, I don't think it is necessary.

Mr. Strouss: The statement was made that they couldn't put on both types of evidence at the same time. The de-

fendant here has elected to put on this other evidence before putting on its own testimony and as we see it we think it was up to them to lay the foundation and make their evidence competent and if they haven't, by putting in evidence of their own operations so there might be a comparison of operations to know whether there is a similarity, that is not our fault.

The Court: On that phase of it I am inclined to agree with you. I have been a little nonplussed on the order of proof because heretofore with the locomotives and boxcars and passenger cars the Southern Pacific put on their proof as to what their type of equipment consisted of and each of the witnesses who subsequently testified from the roads were interrogated whether they had comparable equipment. Here we are starting out with a block signal system with the Santa Fe rather than with the defendant in this action.

Mr. Strouss: And there is no evidence in here as a basis of comparison to show any similarity.

The Court: That is true.

Mr. Strouss: Certainly it is incumbent upon them to lay the foundation for it before they can bring that type of evidence in.

The Court: I presume the court has some latitude as to the order of the proof but it does seem to the court it would be better if this order were reversed and the proof with reference to operating conditions as to the signal system and other phases were first put in as to the Southern Pacific. [fol. 1721] Mr. Mason: Your Honor, it is just this: Sometimes we cannot get the men here when we would like to get them, and sometimes we can. Now, all of the witnesses from the Santa Fe happen to be able to come here today, and the first part of this week. We were not able to get them earlier. On the other hand, our chief engineer, who would cover this situation for us, is not able to be here today.

Mr. Strouss: While we made our objection to that point, we realize the Court has a discretion as to the order of proof, but there are rights of the State which should be considered. We are going into our sixth week in taking evidence, and we make our objection on the question of relevancy and materiality of evidence, but it goes in over our objection, the Court reserving its ruling upon this question, but all of that evidence is in here. If the Court should hereafter determine we are right in our objection, it is a little bit unfair to us that just in order to reverse

the order of proof all this evidence is allowed to go in, which may or may not be material.

The Court: Well, the Court did lay down the rule in the early stages of this trial that where proof was offered [fol. 1722] from other roads we would require a showing of comparability of operation, and to a certain extent; of course, such showing has been made along from time to time as to various phases. As to the ultimate sufficiency, the Court, of course, hasn't had occasion to pass on that. In view of the fact that these witnesses are here from great distances and that the Court has some discretion, I will overrule the objection and permit it, but I will state to counsel that I think it would be much better if you presented proof of the defendant's road first and then followed with proof as to the operation of other roads. You may proceed.

Mr. Mason: I think you have the question in mind, Mr. Thomas?

A. Yes. Automatic block signals on single track are controlled so that the signals in advance of the train governing movements in the opposite direction are controlled similarly to that which was described in connection with the signals to the rear of the train, so that the train is automatically setting up its own protection both to the rear and against opposing movements in advance.

Mr. Strauss: The record will show my objection [fol. 1723].

The Court: Yes, and the objection is overruled.

Mr. Mason: Mr. Thomas, is there a type of signal where by the indications are shown in the cab of the locomotive?

A. Yes.

Q. Do you have any of that type of signal on the Santa Fe?

A. Yes, we do.

Q. What is it called?

A. Cab signalling.

Q. And does the cab signal indicator in the cab carry the same indications of stop, proceed, or caution, as are shown by the wayside signals elsewhere?

A. It carries three lights, which, on the Santa Fe, show, respectively, high speed, medium speed and low speed.



However, they serve a similar purpose to the proceed, caution and stop indications of the wayside signals in other territories.

Q. Now, without referring to the System generally, in detail rather, will you say whether you use the semaphore or the color light type of signal predominantly in the territory east of the Arizona-New Mexico bound-  
[fol. 1724] ary?

A. Predominantly we use the semaphore.

Q. You do have some color light type?

A. Yes, we have a considerable number of color light signals.

Q. Now, from Albuquerque or Belen west, what type of signals do you use?

A. Predominantly, the color light type.

Q. Do you have any semaphore signals in Arizona?

A. Yes, there are some semaphore signals in Arizona, but about two-thirds of the signals in Arizona are of the color light type.

Q. Where you have left-hand operation in Arizona, as described by Mr. Blanchard, do you use the post type of semaphore or color light mounting, or signal bridges?

A. We use signal bridges or half-bridges, depending upon the location, so that the signal is mounted directly over or somewhat to the right of the track which it governs.

Q. Are such signal bridges necessary in righthand operation?

A. Where there are more than two tracks, it is generally necessary to use a signal bridge in order to get sufficient clearance, or, rather, I should say, because of lack of  
[fol. 1723] clearance between the tracks, generally preventing use of the post type of signals.

Q. Does this prevalent use of the color light type of signal as compared with the semaphore type west of Albuquerque extend all the way to the Pacific Coast terminals?

A. It extends to San Bernardino, and from that point west to Los Angeles we have semaphore signals chiefly on the line which passes through Pasadena, and to a considerable extent on the other line which passes through Fullerton, but there are some stretches of color light signals on that line also.

Q. Can you state when the signals were first installed on the main lines of the Santa Fe in Arizona?

A. Yes. In September, 1913, signals were placed in service between Seligman and Yampai, a distance of—do you want distances on this?

Q. Yes.

A. A distance of about 23.3 miles. In October, 1913, signals were installed between Flagstaff and Ashfork, about 55.8 miles. In April, 1914, they were installed between Winslow and Flagstaff, about 59.5 miles, and in July, 1914, [Vol. 1726] between Ashfork and Seligman, about 27.6 miles. In August, 1923, signals were installed between Yampai and Griffith, about 74.9 miles; and between Griffith and Topock, about 39.2 miles. In October, 1927, they were installed between State Line and Chambers, a distance of about 26.4 miles.

The Court: Is that when the double-tracking was done in that area?

A. I think it was installed before that time.

Mr. Mason: You mean the signals preceded the double tracks?

A. No, the signals followed the double tracks. I can't state for certain the dates of installing the double tracks. I am talking of signals. In August, 1928, they were installed between Chambers and Double Track Junction, about 34 miles. And in October, 1930, between Winslow and Joseph City, about 22.4 miles. In November, 1932, signals were installed on the single track between Double Track Junction and Joseph City, about 23.6 miles; and in May, 1940, after the second track had been installed in that territory, the signals were changed to operate on double track.

Q. Now, have you the total System mileage and the total [Vol. 1727] Arizona mileage of signal-equipped main track in various years taken from your records?

A. Yes.

Q. What was the total System and Arizona mileage of signal equipped main line in 1909?

A. In 1909 the total road miles of automatic block signal on the System was 110.4 road miles. There were no signal in Arizona at that time.

Q. Have you the 1922 figures to correspond?

A. Yes, sir. In 1922 the total road miles of automatic block signals on the System was 1,236.1 and 164 miles of that was in the state of Arizona.

Q. Have you the figures for 1939 and 1940 as well?

A. Yes. In 1939 we had 4,681.2 miles on the System, of which 386.7 road miles of signalling was in the state of Arizona.

The Court: Did I understand you to say that the entire main line across the State of Arizona now has the block signal?

A. Yes, that is true.

The Court: I was under the impression that it was more than 386 miles across the state, the way the Santa Fe runs. Am I wrong in that?

[fol. 1728] A. I believe so. From the state line near Mamelito to Topock, at the Colorado river, is approximately 386.7 miles.

Mr. Mason: A check can be made of that figure, perhaps not down to the tenth of a mile, from Exhibit 126, which gives the approximate boundary line mileages.

Q. Now, these figures which you have just recited into the record, Mr. Thomas, from what source are they taken?

A. They are taken from my office record.

Q. Is that a record regularly maintained in your office?

A. Yes, sir.

Q. Under your personal supervision?

A. Yes, sir.

Q. Were they personally taken by you from that record?

A. Yes.

Mr. Mason: Mr. Strauss, will you desire that record?

Mr. Strauss: No, I am not objecting to it on that ground.

Mr. Mason: I think that is all. Thank you, Mr. Thomas.

[fol. 1729] Cross-examination.

By Mr. Strauss:

Q. I think there is only one matter that I want to ask you about, Mr. Thomas. Did I understand your title is Chief Engineer Assistant?

A. Signal Engineer, System.

Q. This cab signalling, will you explain that a little more, just how that operates?

A. The cab signal is in the form of a small rectangular metal case mounted in the cab of the locomotive directly in front of the engineer and carrying, as we use it, three lights. Only one of these lights is illuminated at any one time. When there are no trains for a considerable distance in advance the cab signal indicates "H"; that is, the top light is lighted with the illuminated letter "H", which means "High Speed."

Q. By "High Speed," it would mean, of course, within the speed restrictions in that territory?

A. Yes, it means that there are no restrictions so far as the signal system is concerned, and it permits a train to be operated at whatever is the permissible speed for that particular part of the railroad or track. When the train approaches within a distance of from 8000 to 12000 feet of another train, obstruction, open switch, or broken rail, [fol. 1730] the signal will change its indication; the letter "H" will no longer be illuminated but the letter "M" will be illuminated, meaning medium speed. When the train approaches within a shorter distance; perhaps 4000 feet, 4000 to 8000 feet of the obstruction, the letter "M" will no longer be illuminated; but the letter "L" will be illuminated, which means "Proceed at Low speed," and on this low speed indication also the train must be operated at restricted speed, prepared to stop short of train or obstruction in the block.

Mr. Strauss: That is all.

Redirect examination.

By Mr. Mason:

Q. Mr. Thomas, the cab signals are actuated so as to indicate obstructions in much the same way as roadside signals are actuated; are they not?

A. Yes, they are actuated by track circuits.

Q. Anything that disturbs the electric current in the track circuits registers on the cab signals just as it would register on the roadside signals?

A. Yes, sir.

The Court: Would a broken rail be shown on this block signal?

[fol. 1731] A. Yes, under normal circumstances, it will.

Mr. Strauss: What do you mean by that, "under normal circumstances?"

A. Well, you cannot guarantee it quite 100 per cent, because of leakage of electric current around the break in the track.

The Court: Mr. Thomas, if some catastrophe occurred to put out your block signal system, that is, the operation of it in a given block, how far would that be shown down the line either way? Would that be recorded?

A. This is with the cab signal, you mean?

The Court: Or with your roadside signal. What I am getting at is, if one block went out, would those on both sides be functioning at that time?

A. If one block goes out, the signal at the entrance to that block will give the most restrictive indication, that is "Stop" in case of a wayside signal or "Low Speed" in the case of a cab signal. At the entrance to the previous block, at the approach to this block that we are talking about, a distant indication will be given in the form of a caution signal, or a medium speed cab signal.

The Court: Another question: Where is the electricity [fol. 1732] generated, at what point, to supply the electricity for the operation of this signal system?

A. On different parts of the railroad there are different power systems used. In Arizona, all of our signals are operated by commercial power which is transmitted over a high voltage transmission pole line along the track and then transformed down at the signal locations to a lower voltage for operating the various signal circuits. On other parts of the system, in some cases we use primary batteries, chiefly of the caustic soda type, and on other types storage batteries trickle charged from the small power circuit by the use of commercial current.

The Court: Then in the sparsely settled area such as you have principally across Northern Arizona, you rely on high voltage lines that run parallel to the tracks, carried on poles there?

A. Yes; we obtain power from our own power houses at locations where we have shops, and at other locations we purchase this power from a commercial concern. For instance, at Winslow, power is obtained from our own shops while at Williams we purchase power from a saw-milling company there.

[fol. 1733] Mr. Booth: One question, please, out of curiosity. Are these cab signals a substitute for wayside signals, or are they operated as a supplement to them?



A. On the Santa Fe, they are a substitute for the wayside signals, but that is not true on all railroads. Some use both wayside and cab signals. Where we have them, we also have automatic train control.

Mr. Strouss: What happens if your source of electricity, something should happen to it, a thunderstorm, or something of that sort?

A. The fundamental basis of the entire signal system is safety; it is designed to set up a safe condition in case of practically any kind of trouble developing. The power which operates the signals to the stop position is the force of gravity, so that if electric power which holds the signal in the clear position fails for any reason, the force of gravity will cause the signal to come down to its most restrictive indication, and the same thing is true with the cab signals through the medium of the apparatus which is used to control them.

Q. Of course, in the daytime, the position of the arm would be observed by the engine crew. At night, if they [fol. 1734] were to discover the lights out, I suppose it would be up to them to stop under the rules of the road?

A. Yes, a signal, if imperfectly displayed, must be treated as a stop signal, so if a light is out, it is a stop signal.

Mr. Mason: Where you use commercial power in Arizona, Mr. Thomas, do you have any standby scheme of supplying power for your signals?

A. On the later installations we do, a standby storage battery at every signal location, but in the earlier installations before that system was invented we have to rely on the alternating current power without a storage battery, but we have connections at each power station so that we can get around a power station which has failed and feed the entire double section from one end, from either end. In fact, if the occasion arose, it would be possible to connect all of our transmission lines together from Belen, New Mexico, to Arcadia, which is close to Pasadena, California.

Q. In your experience, as a practical matter do these power failures occur in such manner as to cause interruptions of your signal apparatus in the line across Arizona?

[fol. 1735] A. Very, very seldom. Occasionally, a fuse will be blown at individual signal locations which would

cause that particular signal to indicate "Stop" and its approach signal to indicate "Caution," but we seldom have complete failure of the power system itself which would affect all the signals.

Mr. Mason: I think that is all for Mr. Thomas. Thank you, Mr. Thomas.

The Court: We will take our mid-afternoon recess.

(Thereupon, a short recess was taken, after which proceedings were resumed as follows:)

J. P. McDONALD was called as a witness on behalf of the defendant and, being first duly sworn, testified as follows:

Direct examination.

By Mr. Booth:

Q. Please state your name and residence.

A. J. P. McDonald, Chicago, Illinois.

Q. What is your official position with the Atcheson, Topeka & Santa Fe Railway Company?

A. General statistician for the System.

Q. How long have you occupied that position?

A. I have been in this present position since April, 1938.

[fol. 1736] Q. Prior to that time were you in a similar position?

A. I had a rather varied experience. Shall I start at the beginning?

Q. Yes; start at the beginning and give us your experience briefly.

A. I started with the Denver and Rio Grande Railroad in July, 1907, as a clerk in the mechanical department until September, 1907, and then I left to return to school. I came back to the D. & R. G. in July, 1908, as a clerk and timekeeper until December, 1909. In January, 1910, I started with the Alton Railroad as clerk and accountant, and remained with them until March, 1912. In April, 1912, I started with the Santa Fe as a timekeeper in the car department, and remained until June, 1912. In August, 1912, I went to work for the Denver & Rio Grande Railroad again as chief clerk to the master mechanic, and remained there until March, 1913. In August, 1913, I started with

the Santa Fe again as traveling accountant in the accounting department, and held that position until April, 1914. In August, 1914, I went back to the mechanical department until October, 1914. In October, 1914, I began as an inspector in the mechanical department, in the roundhouse, inspecting locomotives, and remained in that position until August, 1916. Then I left the railroad for a time to go with the steel mills, and the Standard Oil Company, and came back to the Santa Fe in June, 1918, as an accountant in the transportation department and remained in that position until October, 1919, when I was transferred to the engineering department in connection with matters arising out of Federal control operation, and remained on that assignment until June, 1921, when I was transferred to the accounting department to handle the matters in connection with the guaranty period, which was from March to August, 1920, a six-months period, the guaranteed period of operation.

Q. You know that the United States guaranteed a certain return to the carriers?

A. Yes, that was called the guaranty period. It involved settlements with the government, and I was engaged on those settlements and doing research work in connection with the contract provisions. In June, 1921, when I was transferred to the accounting department in connection with those matters, the guaranty period matters, I functioned in the capacity of chief clerk to the Assistant General Auditor at Chicago, and remained in that position until February, 1924, when I was promoted and transferred to Topeka, Kansas, as statistician in charge of the statistics for the System, and remained in that position until May, 1933, when I was promoted to auditor of disbursements in charge of the disbursement accounts of the lines east of Albuquerque; and in July, 1937, I was promoted from that position and transferred to Los Angeles as auditor of the Coast Lines, and remained in that position until April, 1938, when I was promoted and sent to Chicago in my present position.

Q. In your present position, have you access to, and are you familiar with the reports to the Interstate Commerce Commission made annually on Form A of the Atchafalaya, Topeka & Santa Fe Railway System, and the lines formerly

separately reporting which are now part of that system, for the years 1922 to 1939, inclusive?

A. I am.

Mr. Booth: We hand the Clerk two copies of proposed exhibit in one sheet entitled "The Atcheson, Topeka & Santa Fe Railway System. Freight Operating and Freight Transportation Expenses related to Traffic, Calendar [fol. 1739] Years, 1922 to 1939, inclusive," and ask that it be marked "Defendant's Exhibit 130 for identification."

The Clerk: Defendant's Exhibit No. 130 for identification.

Mr. Booth: Mr. McDonald, did you prepare Defendant's Exhibit No. 130 for identification?

A. This exhibit was prepared in my office under my direction.

Q. Have you checked it?

A. Yes, sir, I have.

Q. Are you satisfied that it is true and correct?

A. It is.

Q. Now, from what source or sources was that exhibit exclusively prepared?

A. This data was procured from the annual reports of the operating lines comprising the Atcheson System subsequent to 1923, as reported to the Interstate Commerce Commission.

Q. You say "of the lines constituting the Atcheson System." What lines, during the period of years covered by exhibit, constituted the System and, during what years?

A. During the year 1922 the Atcheson System was comprised of the Atcheson, Topeka & Santa Fe Railway, Gulf, Colorado & Santa Fe Railway, Panhandle & Santa Fe Railway, Grand Canyon Railway, and the Rio Grande, El Paso & Santa Fe Railway. In 1923, the System was composed of the Atcheson, Topeka & Santa Fe, the Gulf, Colorado & Santa Fe, the Panhandle & Santa Fe Railway, and the Grand Canyon Railway, the R. G., E. P. & S. F. Railway having been absorbed by the Atcheson, Topeka & Santa Fe Railway. In the year 1924, and up to and including the year 1939, as shown on this exhibit, this System was comprised of the Atcheson, Topeka & Santa Fe Railway, the Gulf, Colorado & Santa Fe Railway, and the Panhandle & Santa Fe Railway.

Q. Did those three companies you last mentioned report separately to the Interstate Commerce Commission?

A. Yes, they reported separately to the Interstate Commerce Commission up until 1934, when we began filing our System reports, including all those separately-operated properties.

So, from 1934 to 1935, inclusive, there is but one annual report to the Interstate Commerce Commission from which the figures in columns B, C, and D in this exhibit are taken; is that correct?

A. From 1934 to 1939, inclusive?

[fol. 1741] Q. Yes. And prior to 1934 there were separate reports made by the companies you mentioned?

A. That is true.

Q. Except as to the Grand Canyon?

A. Yes, except as to the Grand Canyon. That was a Class Two railroad and the Rio Grande, El Paso & Santa Fe.

Q. Have you with you here in Tucson the annual reports for all of these years mentioned for the companies you have mentioned?

A. Yes; they are in the courtroom now in these trunks here.

Q. From what source or sources did you obtain the 1922 and 1923 figures in addition to these reports?

A. That came from our official files known as Form 504. Our office copies of that are also here.

The Court: Mr. McDonald, what you refer to as the Atcheson is what we know locally as the Santa Fe? Do you use the two terms synonymously?

A. Yes, that is true.

Mr. Booth: Are the figures shown in columns B, C and D, of this Exhibit 130 for identification true and correct?

A. They are.

[fol. 1742] Q. And are the computations shown in columns E and F true and correct?

A. They are correct.

Q. And is the percentage of improvement the bottom horizontal box calculated correctly?

A. Yes, sir.

Mr. Booth: Mr. Strouss, any questions?

Mr. Strouss: This covers branch lines, of course, as well as main-line operation?



A. Yes, sir.

Mr. Strouss: That is all.

Mr. Booth: We offer the exhibit in evidence and tender the reports and documents referred to by the witness which underlie, for examination by counsel.

Mr. Strouss: We make the same objection to this exhibit as we made to the exhibits of the previous witness.

The Court: The objection is overruled. It may be admitted.

(The document referred to was received and marked "Defendant's Exhibit No. 130.")

Mr. Mason: No objection to competency; you mean the same objections as to the Santa Fe witnesses?

The Court: No, as to the same exhibits from the other [fol. 1743] roads, I take it.

Mr. Strouss: Yes, I am making that same objection. The objection as to competency, since the records are here, is probably not well taken. I do want to check those reports.

Mr. Mason: Do you want all of them?

Mr. Strouss: I think I will almost have to take them all in order to get the information. I shivered when he told me the different companies that were reporting but I don't know how I can avoid it.

Mr. Booth: There are two small trunks of them. We have handed the clerk a document entitled, "The Atchafalpa, Topeka & Santa Fe Railway System. Freight Service Operating Averages, Calendar Years, 1922, 1924, 1926, 1928, 1930, 1932, 1934, 1936, 1938, and 1939," and ask that it be marked "Defendant's Exhibit 131 for identification."

The Clerk: Defendant's Exhibit No. 131 for identification.

Mr. Booth: Mr. McDonald, referring to Defendant's Exhibit 131 for identification, was that prepared by you?

A. Yes, that was prepared in my office under my direction.

[fol. 1744] Q. Did you check it sufficiently to be satisfied that it is true and correct?

A. I did.

Q. Were the same reports used in preparing Exhibit No. 130 used in preparing this exhibit, in part?

A. Yes, they were to the extent that the information was shown in those same reports.

Q—And are the other reports that were used in preparing this exhibit shown in the footnotes and described therein? I refer to the OS-A's and OS-E's.

A: Yes, those are also reports which we rendered to the Interstate Commerce Commission, on which this particular information was available.

[fol. 1745] Mr. Booth: Have you with you and here in the courtroom the OS-A's and OS-E's used in preparing this report?

A: I do.

Q: Were the computations made correctly which were necessary to produce the items described in the footnote as having been produced by computation?

A: They were.

Q: Are the per cents of increase shown in the last column of the exhibit correctly calculated?

A: They are.

Q: Or a decrease in one case, the case of freight train miles.

Mr. Strauss: I take it, Mr. McDonald, in referring to the system here that the system covers the same operating territory as the previous exhibit?

A: That is true.

Mr. Strauss: This also includes branch line as well as main line operation?

A: Yes, sir.

Mr. Booth: We tender the operating statistic reports for examination by counsel and offer the exhibit in evidence.

Mr. Strauss: We make the same objections as we did to [fol. 1746] the other.

The Court: Objections overruled, it may be received.

Mr. Strauss: This is the objection that we made prior to recess to similar exhibits.

The Court: I so understood it.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 131.")

Mr. Booth: I notice in line 1 of this exhibit No. 131 it has a variation in the number of miles operated in freight service. Can you tell us generally how that came about?

A: That is due to the construction of new lines and acquisition of new lines that enter into the system from time

to time, as well as the abandonment of lines and decreases in lines, decreases in mileage due to abandonment of branch lines.

The Court: How do you class double track for the purpose of that? Do you count it as one mile or two?

A. That is counted as a single unit, as one unit of road.

Mr. Booth: So the Atchison system is practically speaking a 13,000 mile railroad, that is the way it is usually referred to?

A. That is true.

[fol. 1747] Mr. Booth: I am handing the clerk and ask that there be marked for identification four sheets which purport to be a photograph of Schedule 541, Annual Report to the Interstate Commerce Commission for the Year Ending December 31, 1939, covering revenue freight carried during the year and I will ask you, Mr. McDonald, whether this is a photograph of the corresponding sheets in the annual reports of the Atchison, Topeka, and Santa Fe Railway System to the Interstate Commerce Commission for the year 1939 with the exception of the typewriting shown on the margin of the sheets?

A. That is true.

The Clerk: Defendant's exhibit No. 132 for identification.

Mr. Booth: We haven't a sufficient number of these to furnish the usual number of copies but we will have them next week.

Q. The report from which this was photographed was one of the annual reports which I have handed to counsel?

A. Yes, sir.

Mr. Booth: We offer the four sheets in evidence and ask that they be marked "Defendant's Exhibit No. 132."

Mr. Strauss: The same objections as to the previous [fol. 1748] exhibits.

The Court: Objections overruled, it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 132.")

Mr. Booth: Does the Atchison, Topeka and Santa Fe Railway make annual reports to the Arizona Corporation Commission similar to those made to the Interstate Commerce Commission?

A. They do.

Q. Did it make such a report in the year 1939?

A. Yes, sir.

Q. As a matter of fact the report to the Arizona Corporation Commission contains a copy of the report to the Interstate Commerce Commission and with certain additional information required by the state commission, is that correct?

A. That is true.

Q. Have you that report with you for the year 1939 to the Arizona Corporation Commission?

A. I have.

Q. Is it here in the courtroom?

A. Yes, sir.

Q. Have you caused a photograph to be made of pages 908, 909, 910, and 911 of that report to the state commission for the year 1939 headed, "941. Revenue Freight [fol. 1749] Carried during the Year — within the State"?

A. I have.

Q. Is that photograph with the exception of the type writing on the upper margin of the photograph a correct photograph of those pages of that report?

A. It is.

Mr. Booth: Any questions, Mr. Strouss?

Mr. Strouss: No questions.

Mr. Booth: We offer this in evidence as defendant's exhibit No. 133.

Mr. Strouss: The same objections as to previous exhibits.

The Court: Objections overruled, it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 133.")

The Court: Mr. McDonald, the report which you submit to the Arizona Corporation Commission is both a duplicate of the report made to the Interstate Commerce Commission and then those figures broken down to show the actual operations within the state of Arizona, is that right?

A. That is true.

Mr. Booth: And the Arizona commission prescribes the respects and manner in which you shall break them down, [fol. 1750] does it not?

A. Yes, sir.

Q. In other words you have no option in the matter, you are furnished the form and are supposed to fill it in and you do fill it in?

A. They provide the schedules and define the character of data which we are required to supply for the state and both the state schedules and the entire interstate schedules as reported to the Interstate Commerce Commission are incorporated in the same volume and filed with the state commission.

Q. Under oath?

A. Under oath.

Q. Has that been your practice since the state of Arizona began the requiring of those reports?

A. There have been some changes in the state requirements. They modify them from time to time. I think the last change of consequence occurred about 1920 in the state schedules.

Q. You comply with whatever they require?

A. Yes, sir.

Q. Did the Atchison, Topeka and Santa Fe Railway Company for the calendar year 1939 and for calendar years preceding 1939 make to the state corporation commission of [Vol. 1751] the state of New Mexico a report similar to that filed with the Arizona commission?

A. Yes, sir.

Q. Was schedule 941 in that report to the New Mexico commission for the year 1939 the same in form as schedule 941 required by the Arizona commission?

A. Yes, sir, that is true.

Q. Did the two states use the same form on which they required carriers to make reports to their respective commissions in that year?

A. They did.

Q. Was that report to the New Mexico commission made under oath also?

A. It was.

Q. Did that report also contain the copy of your system report to the Interstate Commerce Commission?

A. Yes, sir.

Q. Have you caused a photograph to be made of pages 908, 909, 910, and 911 of that report for 1939 to the New Mexico commission headed, "941: Revenue Freight Carried during the Year— within the State"?

A. I did.

Q. Do you have a copy of that, Mr. Strauss?



[fol. 1752] Mr. Strouss: I have, yes, sir.

Mr. Booth: Any questions regarding this?

Mr. Strouss: No questions.

Mr. Booth: I have handed that to the clerk and ask that it be received in evidence and marked "Defendant's Exhibit No. 134."

Mr. Strouss: The same objections as to previous exhibits.

The Court: Objections overruled, it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 134.")

Mr. Booth: From exhibit No. 132, schedule 541 of the system reports for 1939 will you state separately the number of cars handled by the system, the number of cars of products of agriculture, and the number of cars of perishables as shown by that exhibit, and by perishables I mean those included in lines 110 to 143, inclusive.

A. The total number of carload traffic handled as shown in column J on exhibit No. 132, line 850, is 1,012,778.

The Court: That is all for the year 1939?

A. Yes, sir, and the total number of cars of products of agriculture handled as shown in item 800, column J, is [fol. 1753] 288,028. I have summarized the number of carloads of perishables, commodities 110 to 143, inclusive, from column J of this exhibit and find it amounts to 117,527 cars.

Mr. Booth: Expressed in terms of percentage, what percentage did the total number of cars of products of agriculture bear to the total number of cars handled?

A. 28.4 per cent.

Q. What percentage did the total number of cars of perishables which you have just stated bear to the total number of cars handled on the system?

A. 11.6 per cent.

Q. Will you turn to exhibit No. 133 and give the figures for the state of Arizona for the year 1939 corresponding to the system figures which you have just put in evidence and also the percentages.

A. On exhibit No. 133, column F, item 850, the grand total number of cars of carload freight handled within the state of Arizona during the year 1939 was 141,799. The total products of agriculture as shown in the same column, item 800, 61,436 and the total number of carloads for commodities 110 to 143, inclusive, handled within the state, which I have

summarized from this exhibit was 54,921. The products of agriculture was 43.4 per cent of the total cars handled within [fol. 1754] Arizona and the perishables, commodities 110 to 143, was 38.6 per cent of the total cars of carload freight handled within Arizona during that year.

Q. Does this figure of 141,799 as the total number of cars handled in Arizona, cars of carload freight handled in Arizona in the year 1939, include freight originating outside of Arizona and passing through Arizona as over a bridge to a point beyond?

A. Yes, it does.

Q. Does it include freight originating outside of Arizona and delivered to a point in Arizona?

A. Yes.

Q. And freight originating in Arizona and delivered to a point outside of Arizona?

A. Yes.

Q. And freight originating at a point in Arizona and delivered to another point in Arizona?

A. Yes.

Q. In other words all carloads of revenue freight handled on your lines, on the system lines within Arizona during the year?

A. The carload freight, yes, sir.

Q. It does not include less than carload freight?

A. That is true.

[fol. 1755] Q. That is shown in tons on the exhibit, is it not?

A. Yes.

Q. Will you take exhibit No. 134 and give us the same figures as to New Mexico for the year 1939 that you have given as to Arizona?

A. The total number of cars of carload freight handled within the state of New Mexico during the year 1939 as shown in exhibit No. 134, column F, item 850, is 219,084. The total number of cars of products of agriculture as shown in item 800 of the same column of this exhibit is 70,131 carloads; in summarizing the number of cars of perishables as shown in the same column, commodities 110 to 143, inclusive, I arrived at a total of 57,200 cars; the number of cars of products of agriculture represents 32 per cent of the total number of cars of carload freight handled within the state of New Mexico during the year 1939 and the number of cars of perishables, commodities 110 to 143, inclusive,

represents 26.6 per cent of the total cars of carload freight handled within the state of New Mexico during that year.

Q. How do you account for the fact that the perishables you have mentioned amount to 38.6 per cent of the total [fol. 1756] number of cars handled in Arizona and only 26.6 per cent of the total number of cars handled in New Mexico for the same year?

A. The number of cars of other traffic, that is, other than perishable, represents a much larger part of the aggregate in New Mexico than it does in Arizona, principally because of the heavy movement of ore in the state of New Mexico.

Q. On what lines do those heavy movements of ore occur principally?

A. The ore originates for the most part on branch lines in New Mexico in the vicinity of Silver City, Puerco, and Hanover, New Mexico, and also there is a quite heavy movement of coal in New Mexico.

The Court: Do those Silver City shipments reach the Santa Fe or the Southern Pacific?

A. We have quite a large volume of those shipments that move on our line from Santa Rita to Hurley and then we have another large volume that moves out to the smelters in Colorado on our line.

Mr. Booth: Does the same explanation apply as to the different classes of freight embraced in the New Mexico exhibit as are embraced in the Arizona exhibit, that is, it embraces all classes of carload freight, trans-state, and interstate, coming in and going out and purely intra-state [fol. 1757]. A. That is true. I might explain that this classification of this traffic is in accordance with the rules prescribed by the Interstate Commerce Commission. They define the commodities that we are to report the information on and they define the manner of reporting the carload and less than carload traffic and that same standard of classification and reporting carries through into the state report.

Q. From the exhibits that have been introduced containing portions of the reports to the Arizona and New Mexico commissions respectively, can you develop what proportion of the freight handled was purely intra-state, that is, picked up at one point in Arizona and laid down in another point in Arizona or picked up at one point in New Mexico and laid down at another point in New Mexico?

A. No, that cannot be determined from these reports.

Q. Can you do so on a ton-mile basis from any records which you have here?

A. Yes, from our own records we determine the number of ton-miles of intra-state traffic handled in the state as well as the number of ton-miles of interstate traffic that was handled within the state.

[fol. 1758] Q. The unit is one ton one mile of revenue freight?

A. Yes, sir.

Q. Have you those records with you?

A. Yes, I have the records here from which that computation can be made.

Q. What is the name of the record you are consulting?

A. It is the office record of the movement, form 579, that shows the ton-miles by states.

Q. The record kept currently in the ordinary course of business of your company?

A. Yes, sir.

Q. Basing your answer on that record for the year 1939 what proportion did the purely intrastate revenue ton-miles in Arizona bear to the total number of revenue ton-miles of freight handled?

A. I made a computation from these records and the intra-state in Arizona, the intrastate tons one mile in Arizona represented 2.15 per cent of the total revenue tons one mile handled in the state of Arizona for the year 1939.

Q. Did you make a similar computation for the same year as to the intra-state passengers handled one mile, and if so, will you give it, please?

[fol. 1759] A. I made the same computation with respect to the passengers one mile for the state of Arizona and found that the intra-state passengers one mile represented 2.82 per cent of the total passengers one mile carried within the state of Arizona during the year 1939.

Q. Both of those percentages include all of your lines in Arizona?

A. Yes.

Q. Did you make any similar computation as to New Mexico?

A. No, I haven't made a similar computation for New Mexico but I can do so.

Q. You will be here tomorrow as Mr. Strouss wants to examine you?

A. Yes, sir.

Mr. Booth: I think that is all for the present; Your Honor, I think I only have one more question and that relates to the item I asked about.

The Court: You wish to defer the cross-examination until tomorrow morning?

Mr. Strouss: Yes, sir.

The Court: The court will be at recess as far as this case is concerned until 10 o'clock tomorrow morning.

[fol. 1760]

January 7, 1941, Ten o'clock A. M.

All parties being represented as heretofore noted, proceedings were resumed as follows:

The Court: You may proceed.

J. P. McDONALD was recalled to the stand, and testified further as follows:

Direct examination (continued).

By Mr. Booth:

Q. Mr. McDonald, do you desire to make any corrections on some percentages you gave yesterday?

A. Yes, I do wish to make some corrections. On page 1753 of the transcript, the number of cars of perishables for the Santa Fe System was given as 117,527 cars. That represents commodities 110 to 164 inclusive, inadvertently. It should be corrected to read 99,161 cars for commodities 110 to 143 inclusive, and this change affects the percentage relationship of the perishables to the total number of cars handled on the System, changing it from 11.6 to 9.8 per cent. Now, on page 1754 of the transcript, the percentage relationship of perishables to the total number of cars handled in Arizona should be changed from 38.6 per cent to 38.7 per [fol. 1761] cent; and on page 1755 of the transcript the percentage relationship of the perishables to the total number of cars handled in New Mexico should be changed from 24.6 per cent to 26.1 per cent, and that percentage is also referred to at the top of page 1756 of the transcript, and should be similarly changed.



Q. You have no further corrections to make?

A. No, sir.

Q. You have examined the transcript of your testimony?

A. Yes.

Q. And you were testifying from the transcript of your testimony just now?

A. Yes, I was referring to the transcript of my testimony yesterday.

Mr. Booth: No further questions, your Honor.

Cross-examination.

By Mr. Strouss:

Q. Mr. McDonald, the defendant's exhibit 130, Freight Operating, Freight Transportation expense, column C, Freight Operating expense represents the total of accounts 201 to 462 of your annual report each year; is that true?

A. That is correct.

Q. And column D, Freight Transportation expense, [fol. 1762] represents accounts 370 to 412, inclusive?

A. 371 to 420 inclusive.

Q. Now, on your exhibit 131, in response to the Court's question yesterday concerning double-tracking, I take it from your answer that you meant that if you had a mile of single track and double-tracked that same mile, it wouldn't add to the miles of line operated under Item I of that exhibit.

A. That is true.

Q. On your comparison of operations in New Mexico and Arizona, there is quite a difference in miles of line operated in the two states by the Santa Fe Railroad, isn't there, Mr. McDonald?

A. Yes, there is some difference in the aggregate mileage.

Q. Your annual report for the year 1939 given the New Mexico Commission shows the miles of road operated in New Mexico as 1,468.72; is that correct? That is, freight mileage operated.

The Court: That would include, Mr. Strouss, all branch lines?

Mr. Strouss: Well, his testimony has covered branch as well as main lines.

A. I don't have those figures before me, but I would say that is approximately correct.

[fol. 1763] Q. Here is the report.

A. 1,460.78.

Q. 1,460.78?

A. Yes.

Q. And for passenger?

A. Well, that is the total miles operated.

Q. What is the total mileage operated in freight service?

A. It isn't shown separately here.

Q. What is the average miles operated in freight service in New Mexico as shown by your annual report to the New Mexico Commission? What is that figure for freight service?

A. The average miles of road operated, as shown in Schedule 931 of our annual report to the New Mexico Corporation Commission is 1,468.72.

Q. And in passenger service?

A. 1,093.26 miles; that is the average miles operated during the year.

Mr. Booth: 1939?

A. 1939.

Mr. Strouss: And in Arizona?

A. What is it you want for Arizona?

Q. The same thing; total mileage operated in freight service first?

A. The average miles of road operated in freight service [fol. 1764] in the State of Arizona for the year 1939 was 819.47 miles.

Q. And in passenger service?

A. Passenger service 750.11 miles.

Q. Now, that same account shows averages for the year, does it not, page 905?

A. Yes, it shows certain averages.

Q. Will you read those averages into the record, miles per revenue ton?

A. Are you referring to Arizona?

Q. Arizona first.

A. The miles per revenue ton as shown in Schedule 931 of the Annual Report to the Arizona Commission for the year 1939 was 321.01.

Q. And the miles per revenue passenger?

A. 360.12.

Q. Revenue per ton miles?

A. .01108 dollars.

Q. And revenue per passenger mile?

A. .01759 dollars.

Q. Revenue per ton?

A. \$3.56.

Q. Revenue per passenger?

A. \$6.34.

Q. Ton miles of revenue freight per mile of road?

[fol. 1765] A. 1,271,257.

Q. Now, will you turn to that same schedule for New Mexico?

The Court: Do you want him to read the same information for New Mexico?

Mr. Strouss: Yes. First, miles per revenue ton.

A. Miles per revenue ton for the year 1939 in the State of New Mexico, as shown in Schedule 931 of the Annual Report to the Corporation Commission for the Santa Fe is 226.91.

Q. Miles per revenue passenger.

A. 336.75.

Q. Revenue per ton miles.

A. .01098 dollars.

Q. And revenue per passenger mile.

A. .01913 dollars.

Q. Revenue per ton.

A. \$2.49.

Q. Revenue per passenger.

A. \$6.44.

Q. Ton miles of revenue freight per mile of road.

A. 1,043,451.

Q. Now, that same schedule shows, does it not, Mr. McDonald, that in Arizona, locomotive miles for helper service [fol. 1766] was 732,088 miles?

A. In freight service.

Q. In freight service, and in New Mexico 171,326, is that correct?

A. That is correct for freight service.

Mr. Strouss: I think that is all.

Mr. Mason: No questions.

Mr. Booth: May Mr. McDonald with his records be excused?

Mr. Strouss: Yes, so far as I am concerned.

(Witness excused.)

[fol. 1767] LOYD E. CARTMILL, was called as a witness in behalf of the defendant and being first duly sworn testified as follows:

Direct examination.

By Mr. Mason: :

Q. Will you state your name and official headquarters to the reporter, please?

A. Loyd E. Cartmill, San Francisco.

Q. What position do you occupy with the Pacific Fruit Express Company?

A. General superintendent, car department.

Q. Will you describe in general your duties as general superintendent of the car department of the Pacific Fruit Express Company?

A. My duties are to maintain the equipment, keep it in service.

Q. Do you have supervision of the car shops of the Pacific Fruit Express Company?

A. Yes, sir, everything pertaining to the cars.

Q. Does the building and reconstruction of P. F. E. cars come within your jurisdiction?

A. Yes, sir.

Q. The necessary inspections for the purpose of determining defects in such cars?

A. Yes, sir.

[fol. 1768] Q. The designing of cars or changes in cars?

A. That comes under my supervision, yes, sir.

Q. How long have you been employed by the Pacific Fruit Express Company?

A. Since 1908.

Q. In what capacities, will you say briefly?

A. I have been inspector, foreman, and shop superintendent, assistant general superintendent.

Q. Have you had prior experience, prior to joining the Pacific Fruit Express Company, with other companies operating or handling refrigerator cars?

A. Yes, sir, I had former experience with the Armour car lines which preceded the P. F. E. in service on the coast.

Q. How many years was that?

A. I began with them in 1900.

Q. For what railroads particularly does the Pacific Fruit Express furnish refrigerator cars?

A. Southern Pacific Company, Union Pacific, and the Western Pacific Railroad and their subsidiaries.

Q. Does it furnish refrigerator cars to other carriers other than those three whenever necessary?

A. I believe they are operated over all railroads in the country, yes.

[fol. 1769] Q. Do they operate over the Santa Fe?

A. Yes, sir.

Q. Does the Pacific Fruit Express Company operate the cars itself in the sense that it hauls them over the lines?

A. No, sir.

Q. Does it perform other services in connection with the furnishing of cars such as icing or protection against cold?

A. Yes, we furnish refrigeration and heater service.

Q. Does the Pacific Fruit Express Company service its own cars?

A. Yes, sir.

Q. Perform repairs upon them?

A. Yes, sir.

Q. Do those repairs include repairs to the running gear as well as to the body of the car?

A. Yes, sir.

Q. Does the Pacific Fruit Express operate cars on the Southern Pacific lines in Arizona?

A. Yes, sir.

Q. In Nevada?

A. Yes, sir.

Q. On all parts of the Southern Pacific system?

A. I think so, yes.

[fol. 1770] Q. At what points does the P. F. E. company maintain shops of its own?

A. It maintains shops at Los Angeles; Colton, California; Foseville, California; Nampa, Idaho; Pocatello, Idaho; and Tucson, Arizona.

Q. Do you characterize these shops as general shops?



A. There are four general shops and two light and heavy repair shops.

Q. What are the four general shops and how are those distinguished from the other two?

A. The four general shops are at Los Angeles, Colton, and Roseville, California, and Nampa, Idaho. At those shops we build and rebuild cars in addition to taking care of any other repairs. At Tucson and Pocatello we take care of light and heavy repair cars but do not do any rebuilding at those two places.

Q. Are cars reconditioned at Tucson?

A. Yes, sir.

Q. Do you maintain forces of inspectors as well as repair forces at those points?

A. Yes, sir, complete shop organization.

Q. Taking the Tucson force, for example, about how large a force do you maintain here?

A. We have all the way from, in the season, up to 150 [fol. 1771] to 200 men.

Q. The force fluctuates with service demand?

A. Yes, sir.

Q. About how large a force do you maintain at the shop at Roseville?

A. About 600 men.

The Court: Did I understand you to say you maintain a force in Tucson of about 150 to 200 men?

A. Yes, sir.

Mr. Mason: About how many men do you employ at the peak season at Los Angeles?

A. About 600.

Q. And about the same number at Colton?

A. About 450 or 500 at Colton.

Q. Do these forces also fluctuate with seasonal demands?

A. Yes, sir.

Q. Do you have any points on the line or elsewhere where you maintain inspectors, designated as so-called "outside points"?

A. Yes, sir.

Q. Will you indicate some of those points and state what forces you maintain?

A. We have inspectors and forces at Fresno, Idaho Falls, Salt Lake, Bay Shore, which is near San Francisco,

[fol. 1772] Oakland, and many others in season. I don't recall all of them. Stockton is one of them.

Q. El Centro and Brawley?

A. We have men at El Centro and Brawley during the season.

Q. And Yuma?

A. Yuma as well.

Q. Do you maintain any forces at El Paso in season?

A. No, sir—pardon me, we have had repair men at El Paso in the past but it is not a regular force.

Q. What is the reason for maintaining these forces at these so-called "outside points"?

A. They are put there to see that the cars in that loading territory are in first-class condition, that they are clean and suitable for the loading. Usually they are located adjacent to a heavy loading territory and they make an inspection of the cars to determine that they are all right.

Q. Do they make light repairs of the cars if necessary?

A. Yes, sir.

[fol. 1773] Q. Are they equipped so as to recondition those cars?

A. No, sir, they can make light repairs and if they find one they cannot make light repairs on and make it satisfactory they would tag it to a closer shop.

Q. You have mentioned the terms "light" and "heavy" repairs as well as "reconditioning." How do you distinguish between light and heavy repairs?

A. A car costing one hundred dollars would be considered a light repair car.

Q. Any repairs up to one hundred dollars?

A. Yes, sir.

Q. And over one hundred dollars and up to what amount are heavy repairs?

A. From one hundred to two hundred fifty dollars.

Q. Do those figures include both labor and material?

A. Yes, sir.

Q. Are these repair forces and inspector forces at these outside points entirely separate and distinct from any railroad repair forces?

A. That is right, they are all P. F. E. forces on our payroll.

Q. Subject to your own supervision and jurisdiction?

[fol. 1774] A. That is right.

Q. Are your shops separate and distinct from the railroad car repair shops?

A: Yes, sir.

Q. When a car is returned empty to Pacific Coast or Southern Pacific territory after having been loaded to eastern territory, what happens to that car so far as the car forces or inspecting forces of the Pacific Fruit Express Company are concerned?

A: They are put into one of our shops or into the tracks assigned us for making inspection of the cars.

Q. This car, for example, is returned through the Tucumcari gateway. Where does the Pacific Fruit Express Company first see it or take charge of it?

A. If it was a car that was needed in this territory it would be stopped at the Tucson shops.

Q. What would be done to it there?

A. It would be given a general inspection, cleaning, and servicing.

Q. Would that be done before it was loaded again?

A. Oh, yes.

Q. Is that done to every car returning?

[fol. 1775]. A. Yes, sir, before it is loaded, somewhere.

Q. If the car returns to the Southern Pacific through the Ogden gateway, where is the car first taken care of?

A. We would probably take care of it at Roseville, which is the first shop west of Ogden.

Q. A car returning through the Tucumcari-El Paso route is required in California, would it pass by Tucson and be inspected at some other point?

A. Yes, it would be directed through Colton or Los Angeles.

Q. If a car is required for loading in the Salt River Valley or the Yuma or Imperial Valley territory, where is it taken care of?

A. It is taken care of here, Nogales branch, Salt River Valley and Imperial Valley, anywhere within this vicinity.

The Court: Do I understand that these cars are loaded going east but that they return ordinarily empty?

A. Ordinarily they are, Judge, yes, sir.

Mr. Mason: Are Pacific Fruit Express cars susceptible of lading by other than perishable commodities requiring protection against heat or cold?

[fol. 1776] A. Yes, sir.

Q. They are sometimes used for such lading?

A. Yes, sir.

Q. What types of lading in particular?

A. Dairy products and packing house products; also they are loaded sometimes with dead freight.

Q. Are they ever loaded with such freight as flour or sugar?

A. Oh, yes, I think we have about everything in them.

Q. They are loaded with anything except commodities the nature of which would injure the interior of the cars?

A. That is right. We have some commodities that are not permitted to be loaded in our cars.

Q. That includes steel articles?

A. Yes, I think so, heavy steel, machinery, and things of that kind that would be apt to injure the car are prohibited.

Q. Can you say approximately what percentage of Pacific Fruit Express cars return empty westward as compared with the total returned?

A. I don't know that, Mr. Mason.

Q. Have you seen a copy of defendant's exhibit No. 2 relating to the chronology of car construction of freight boxcars on the Southern Pacific?

[fol. 1777] A. Yes, sir.

Q. Have you prepared or caused to be prepared an exhibit similar in form relating to the chronology of car construction of Pacific Fruit Express Company cars?

A. I have.

Q. Have you that statement before you?

A. Yes, sir.

Mr. Mason: We will ask that the chart which has been handed to the clerk and which consists of one sheet bearing the title, "Chronology of Pacific Fruit Express Freight Refrigerator Cars," be identified as defendant's exhibit No. 135 for identification.

The Court: It may be so marked.

The Clerk: Defendant's exhibit No. 135 for identification.

Mr. Mason: Was this prepared in your office, Mr. Cartmill?

A. Yes, sir.

Q. Under your direct supervision?

A. Yes, sir.

Q. Are you familiar with the details of the exhibit?

A. Yes, sir.

[fol. 1778] Q. Will you state from what records it was prepared?

A. These were prepared from records that are maintained in my office at San Francisco.

Q. Are those the records of details of car construction on the Pacific Fruit Express Company?

A. Yes, sir.

Q. Are they permanent records?

A. Yes, sir.

Q. Do you have those records in the city of Tucson at the present time?

A. I believe they are here, yes, sir.

Q. Are they available for the examination of opposing counsel if they so desire?

A. Yes, sir.

Mr. Mason: Mr. Strouss, we are prepared to produce the underlying records if you wish them. I am not sure that they are in the courtroom, maybe they were a little too bulky to bring in this morning.

Q. Has the exhibit been compared, Mr. Cartmill, against the underlying records to determine its correctness?

A. Yes, sir.

Q. Will you say whether or not in your opinion it is true and correct?

A. It has been checked and double-checked and I believe [fol. 1779] it is correct.

Mr. Mason: Have you any questions, Mr. Strouss, before the exhibit is offered?

Mr. Strouss: This is a question, I am not sure that it is a proper question here but I would like to save making an objection. Under column C you show "New Features" and in 1936 you show "New Features" there for that year. You don't mean by that that this exhibit means that all of the cars which you now own have all of the new features which are shown as those developed in 1936?

A. No, it is simply to show a comparison as between the cars as built in 1906 and as built in 1936.

Mr. Strouss: That is all.

Mr. Mason: Of course I have some more questions on the exhibit but they would necessarily relate to some of the



material and I wouldn't want to ask them preliminary to an offer. I will offer the exhibit in evidence as defendant's exhibit No. 135.

Mr. Strouss: No objection.

The Court: It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 135.")

[fol. 1780] Mr. Mason: Now, Mr. Cartmill, the 1906 car shown on exhibit 135 was practically the first car developed and built by or for the Pacific Fruit Express Company?

A. It was the first car built for the Pacific Fruit Express Company.

Q. And the features shown in column C, under the heading "New Features," are some of the outstanding characteristics of the car as placed in service in that year?

A. Yes, sir.

Q. Now, there were developments between 1906 and 1930, I presume?

A. Yes, sir.

Q. Then, what is the purpose of showing the 1930 car on the exhibit as the next development?

A. Well, it represents the type of car that was put into service and maintained from 1930 on.

Q. Now, were cars of earlier construction brought down to date by having incorporated in them the features shown for the 1930 car?

A. Well, the first 1906 car, there are none in service at all today, they are all out of service.

Q. But other cars that were built in subsequent years, were they given the improvements?

[fol. 1781] A. Yes, sir.

Q. For example, the 1906 car shows a tandem spring draft rigging, and shows that arch bar trucks were applied?

A. Yes, sir.

Q. Were those eliminated subsequently?

A. Those are all out of service. We have no cars with arch bar trucks, and no cars with tandem spring draft gears.

Q. Then, when cars were rebuilt or reconditioned after 1906 or at some subsequent date, the arch bar trucks were changed out for the type shown here?

A. Yes, sir, a great number of them were changed.

Q. For cast steel truck side frames?

A. Yes, sir, a great number of them were before they were scrapped.

Q. And the friction draft gears, instead of the tandem spring draft gear?

A. Yes, sir.

The Court: Would you classify the 1906 car as a wooden car?

A. No, sir, a steel underframe car.

Mr. Mason: And the other appliances shown here, for example, handholds and brake wheels, were the locations [fol. 1782] of those changed or additional handholds applied as the cars came into the shop?

A. Yes, the cars built in 1930 complied with all A. A. R. safety requirements, while the cars of 1906 did not.

Q. Now, turning to another feature, the cast iron wheels, single plate, is that a feature of the present day, generally speaking, of all P. F. E. cars?

A. Yes; that is an improvement, we considered that a better wheel than the old double plate wheel.

Q. Now, turning to the 1936 car, I notice you show the steel underframe with Corten steel center sills, and at the same time you show that the cross-sectional area of the center sills of the 1936 car is some ten square inches less than the 1930 car. Will you explain that?

A. Well, the Corten steel, is, of course, much stronger than the Grade B steel that is used commonly in center sills, plus the increased strength in the design of the car itself.

Q. How does that increased strength in the design of the car come about?

A. Well, it is a car that is riveted or welded, making a solid steel car body.

[fol. 1783]. Q. Is it a solid steel body?

A. Yes, sir, the outside of it is all steel.

Q. Have you in the court room a model which corresponds to any of the cars shown on exhibit 135?

A. I have a model of the exhibit as shown in 1930.

Q. Is that the model car which is shown near the Judge's bench?

A. Yes, sir. It differs somewhat from 1930, as that model was built in 1928, I believe. It is very representative of a number of cars that we have.

The Court: What are the oldest cars that you now have in use, Mr. Cartmill, what year were they reconstructed?

A. Well, we are rebuilding cars in our shop now, Judge, that were built in 1925 and '26. That is the type that we are now giving a new body, turning out as a rebuilt car.

Q. Cars built prior to that time have been retired from service?

A. A great many of them have, but a great many of our cars are in service that have been rebuilt. They are practically a new car after we give them a rebuilding. We modernize them and bring them up to date. While they would be built new in 1925, they would probably be rebuilt; we are building large numbers of them over and turning them out in 1940, and 1941 now.

Mr. Mason: When a car is rebuilt as you describe, are the new features shown in the 1936 car added to it so far as practicable?

A. Yes, sir.

Q. You show that the 1936 car has as one of its features AB Brakes. Do you have any program of applying the AB brake to cars built prior to 1936?

A. Yes, we have. Commencing this year, all cars rebuilt in our shops will have AB brakes applied and with the program which we have we will comply with the rule of having them all equipped.

The Court: What do you mean by "AB Brake?" What features does it have?

A. It has a feature that it gives the control of the car from the engine end, better control than the K-2 Valves.

Mr. Mason: The AB brake refers to the brake valve attached to the car itself and which controls the airbrake mechanism on the car?

A. It refers to the air brakes only.

[fol. 1785] Q. It doesn't refer to the shoes applied to the wheel?

A. No; that is the foundation brake, it doesn't refer to them. Foundation brakes are applied alike to all of our cars, with the exception of the AB features in the airbrakes.

Q. Do I understand, Mr. Cartmill, that the AB feature is the valve which replaces the K-2 type triple valve?

A. That is right.

Q. Which is the present standard on many cars?

A. That is right.

Q. What is the date when the application of AB brakes will be complete?

A. The present date is January first, 1945.

Mr. Strouss: Now, are you speaking about Pacific Fruit Express cars?

Mr. Mason: Yes.

Q. What is the distinction that classifies the P. F. E. or the refrigerator car apart from other freight boxcars, Mr. Cartmill?

A. Well, a refrigerator car is a car that is built to transport perishables and protect them from heat or cold.

Q. Does it bear any resemblance apart from the wheels and the underbody to the household refrigerator?

[fol. 1786] A. It has the same features in the body of the car as the ice-box that we used to use in our homes.

Q. Are the sides, for example, built up with insulation to prevent the escape of heat or the intrusion of heat, as the case may be?

A. Yes, sir.

Q. And the doors in the same way?

A. The doors are built to close tightly and packed to see that no air can enter or escape.

Q. Does the car include a provision for the carrying of ice as the cooling medium?

A. Yes, sir.

Q. Where is the ice carried?

A. Carried in the ends of the car, two ice bunkers.

Q. Can you indicate the location of those ice bunkers by reference to the sketch of the 1936 car on exhibit 135?

A. Yes, it is outlined there on the diagram showing the ice bunkers at each end, and the hatchways at the top where the ice is supplied.

The Court: They are filled from the top, then?

A. Yes, sir.

[fol. 1787] Mr. Mason: Are those hatchways shown on the model which is adjacent to the Judge's bench?

A. Yes, sir.

Q. How about much ice is carried in the bunkers of the standard refrigerator car, PFE car?

A. Some of them 10,000, some of them 11,500 pounds per car. We also have some that are considerably more than that, but I am talking about the average car.

Q. You have a few very much larger cars?

A. Yes, sir.

The Court: How often do you have to re-ice them with that quantity in the bunkers?

A. We have icing stations all across the country. They are located at points that have been determined to be advantageous for the icing; that has been predetermined before the ice plants were installed; or we have provided for ice supply at those points.

Q. You go a distance of several hundred miles without re-icing?

A. Yes; in fact, we take a car across the country now without re-icing, from one coast to the other.

Mr. Mason: Mr. Cartmill, does the question of whether icing or re-icing may be required at particular points en-[fol. 1788] route depend very largely upon the commodity?

A. Yes, sir, and the instructions of the shipper.

Q. The state of the commodity when it is loaded, whether it is ripe or green?

A. Yes, that would have a bearing.

Q. Whether body ice is used or not?

A. Yes.

The Court: Do you have an automatic feature so that you can keep that temperature in there at a given point?

A. There are no automatic features in the car, except the one of refrigeration that you are all familiar with where ice is used as a refrigerant.

Q. What would be the normal temperature of such a car, iced?

A. It would depend on whether you used any salt or not. If you used ice without any salt, it would be probably around the late thirties or probably forty degrees. If you put in salt, you can freeze the commodity in the car if you put in enough.



Q. You just obey your shipper's instructions as to temperature?

[fol. 1789] A. That is right.

Mr. Mason: Are you able to maintain lower temperatures, for example, where you are carrying fresh meats in the car, than when you are carrying cantaloupes?

A. We have to maintain lower temperatures where we are handling, for instance, frozen products.

Q. Is it possible to vary the temperature also by the use of the vents?

A. Well, it is possible to control it to some degree by the vents. That is not resorted to generally, but where we have bulbs or something that has to have certain temperatures, we can usually give most any temperature they want.

The Court: Is this what you term the vent at the upper end of the bunker?

A. Yes, sir, except, if you will notice, that ventilator is controlled by a graduated lever, with graduations on it that can be set at many angles. You might take the top off and show the judge how that ventilation is accomplished.

(Thereupon, the Court and counsel examined the model referred to and discussed the same off the record.)

The Court: We will take a ten minute recess at this time. [fol. 1790] Mr. Mason: Mr. Cartmill, I think you stated it was possible to control temperatures in the refrigerator cars according to the desires and needs of the commodity being shipped and so forth. Do you have P. F. E. employees at various places along the principal routes for the purpose of making adjustments of the ventilators of the cars.

A. Yes, sir.

Q. Just how do the employees accomplish this adjustment of the ventilators? Is it possible to adjust the ventilators to any desired degree of opening?

A. Yes, sir, they can vent them to any degree that is required or that they are instructed to do.

Q. That has the effect, I suppose, of lowering or raising the temperature in the body of the car and thus of the lading?

A. Yes, sir.

Q. Are you familiar with the operation called "Pre-cooling"?

A. I am not familiar with that. I know about it.

Q. You know that there is such an operation as pre-cooling of perishable freight?

A. Yes, sir.

[fol. 1791] Q. Is it done with the Pacific Fruit Express Company cars?

A. We perform that service in many places.

Q. That does not come under your jurisdiction?

A. That does not come under my jurisdiction.

Q. Do you have to make any adjustments of the cars or of the appliances on the cars to permit pre-cooling?

A. No, sir.

Q. Are you familiar with the refrigerator cars known as the "S. F. R. D."?

A. Yes, sir.

Q. What company operates those?

A. Santa Fe.

Q. Do they bear any resemblance to P. F. E. Company cars?

A. Some, yes, very much like them.

Q. Are they very similar?

A. Yes, sir.

Q. In the building of P. F. E. cars or in the rebuilding do you take into account the loading which they are to carry?

A. We of course anticipate the needs of patrons before redesigning a car and we get advice from our agents and traffic men concerning such cars and consider them in de-  
[fol. 1792] signing and redesigning all equipment to fit any particular need.

Q. Is it possible to adjust or design the inside measurements so as to permit various types of perishables to be loaded without the necessity of bracing?

A. We attempt to do that and it can be done. A great many shippers prefer having braces in the center of the load anyway and some of them prefer having solid load. That feature I am not entirely familiar with either.

Q. Are the lugs and boxes in which fruits and various other perishables are loaded of standard dimensions?

A. I believe they have a standardization committee on packages which tries to get the shippers together and so far as possible standardize their packages.

Q. Do you adjust the inside measurements of your cars to fit those standard packages or boxes?

A. We attempt to do that so far as possible.

Q. On your exhibit No. 135 you refer under the heading "New Features" first to the tandem spring draft rigging for the 1906 car, then to friction draft gears for the 1930 car. Do you use friction draft gears now exclusively on all of your cars?

A. All of our cars are equipped with friction draft gears. [fol. 1793] Q. Are there various types of friction draft gears?

A. Yes, sir.

Q. Generally speaking, do they all employ much the same principle?

A. The same principles are employed in all friction draft gears.

Q. That includes a combination of springs and friction members?

A. Yes, sir.

Q. What is the function of the draft gear as a part of the appliance on the car body?

A. It is placed there to cushion the effect of operating shocks and switching shocks, cars being handled.

Q. Where is the draft gear found on the car?

A. At the end of the car, between the center sills or at the end of the center sill, one on either end.

Q. There are two draft gears on each car?

A. Yes, sir.

Q. Does the draft gear serve as a means of attaching the coupler and coupler shank to the car?

A. Yes, sir.

Q. That is its purpose, is it not?

[fol. 1794] A. That is its purpose.

Q. Are you familiar with the type of draft gear known as the "National M-17"?

A. Yes, sir.

Q. Is that a standard type of draft gear?

A. That is one of the friction standard gears that we use.

Q. Similar in general operation to other types of draft gear that you use?

A. Yes, sir.

Q. I want to call your attention to the model in aluminum which is on the table before you. Is that a model of the National M-17?

A. Yes, sir.

Mr. Mason: I will say to the court and for the advice of counsel that we expect to introduce in evidence not a model of the gear itself but a drawing of the National M-17 gear by another witness who will explain precisely how the gear operates with the drawing so the entire matter can be in the record but I wanted to identify the National M-17 as being a standard type of draft gear in use and similar in operation to other draft gears.

Q. Mr. Cartmill, have you before you a statement in three sheets bearing title, "Pacific Fruit Express Company, Sheet 1 of Sheets," on the first sheet and then details of construction of P. F. E. cars and so forth?

A. Yes, sir.

Mr. Mason: May this exhibit be marked for identification?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 136 for identification.

Mr. Mason: Did you prepare exhibit No. 136 or have it prepared in your office?

A. I did.

Q. From what sources?

A. From the records that are maintained in my office.

Q. Are those the detailed records of car construction and car repair and inspection which you maintain regularly in your office?

A. Yes, sir.

Q. Have you brought those records to Tucson with you?

A. Yes, sir, I believe they are here.

Q. I will ask you to observe a package of records on one of the chairs near the bar in the courtroom. Is that one of the series?

A. I believe so.

[fol. 1796] Q. There are fifteen others?

A. I didn't know just how many there are but I know there is quite a number of them.

Q. Has the exhibit been compared against the underlying sources to determine its correctness?

A. Yes, sir, it has been checked.

Q. Will you say whether or not it is a true and correct reflection of the original records?

A. To the best of my knowledge it is.

Mr. Mason: Mr. Strouss, one of the sixteen packages of these original records is in the courtroom and if you require of course we will produce the other fifteen.

Mr. Strouss: At the present time I don't know.

Mr. Mason: In round figures what is the cost now as of the present time of a P. F. E. refrigerator car standard size.

A. Between forty-five and forty-six hundred dollars.

Q. Does that include all of the various appliances?

A. That is the car complete and ready for service.

Q. With the AB brake and the friction draft gears you have described?

A. That is right.

[Vol. 1797] Q. Referring to sheet No. 2 of the exhibit, I notice that you use the expression, referring to the cars rebuilt, "which cars were modernized at the time of rebuilding." What do you mean by the term "modernized"?

A. In our rebuilding, just as that would indicate, we tried to modernize it and bring it up to the requirements of shippers of that date based on the best knowledge we could obtain as to their requirements.

Q. Does that include the application of the newer and more modern fixtures and appliances?

A. Yes, sir.

Q. Would it include, for example, the replacement of the underframe by a stronger underframe if that was necessary?

A. If it was necessary it would include a new underframe.

The Court: I notice there are several years between 1925 and 1940 where no new cars whatever were built but numerous cars were rebuilt. That is correct, is it?

A. Yes, sir, we had several years in 1933, 1934, and 1935, I believe, that we didn't buy any cars and we didn't rebuild many at that time either.

[Vol. 1798] The Court: That was during the depression years?

A. Yes; we didn't find the need for the cars.



The Court: The same is true of the year 1938?

A. Yes.

Mr. Strouss: Has this been admitted in evidence as yet?

Mr. Mason: No.

The Court: I beg your pardon.

Mr. Strouss: I have no objection to the exhibit being received in evidence but I think it should be in evidence before we discuss it.

The Court: Yes, that is true.

Mr. Mason: As to Part 3, Mr. Cartmill, I think you have referred to outside light repair points in your previous discussion without particular reference to this exhibit. What do you mean by "culling stations"?

A. That is an outside repair point.

Q. Is that a point at which you have force's to look these cars over and if necessary remove them from service until repairs can be made?

A. That is right. At each of these outside points we have a man in charge who is competent to judge and if he finds a car that is unsuitable for the service required it is called [fol. 1799] out and billed to the home shop for proper handling.

Q. About how many of these light repair points or culling stations do you maintain; that is, how many different ones are there?

A. I think there are about 85 all told where we have some repair man at some time in the year.

Q. Some of these points are maintained only seasonally. I take it?

A. Yes, sir.

Mr. Mason: We now offer the exhibit as defendant's exhibit No. 136.

Mr. Strouss: No objection.

The Court: It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 136.")

The Court: I notice at the close of the year 1939, referring to page 3, that you had 5,000 fewer P. F. E. cars in active service than you had in the year 1930.

A. Yes, sir, we did.

The Court: And each of these cars on the average gets into the shop five or six times a year?

A. The column shows in 1939 they were at our shops 6.66 times per car in service.

Mr. Mason: Is there an inspection made each time of [fol. 1800] the car before it is handled at the shop?

A. Yes, sir, that is the first thing it gets, is inspection.

Q. Then this column means that there have been 6.66 inspections on the car on the average during 1939?

A. That is right.

Q. Before shopping?

A. It was in one of our shops for inspection and received inspection and conditioning and repairing if necessary 6.66 times.

The Court: Does that necessarily mean that each time work was done on that car or if it successfully passed the test might it be rolled out without having anything done on it?

A. We never turn them out without having something done. They have to be cleaned. One thing about a refrigerator car, it carries foodstuffs and it has to be cleaned and they have to be swept and scrubbed if necessary and deodorized or whatever is needed and then minor repairs made and air brakes tested and doors tested, plugs tested to see that they are tight.

Mr. Strauss: Do you mind if I ask a question, Mr. Mason?

Mr. Mason: No.

[fol. 1801] Mr. Strauss: I was wondering on column 6, "Average Number Times per Year Each PFE Car Handled at Outside Points," for 1939 is 2.98?

A. That is additional to the 6.66 through the general shops.

Mr. Strauss: Suppose a car is inspected at one of the outside points and some repair is found necessary there which would require it to be taken into one of the shops, would that be counted first in paragraph 6 and when it is taken into the shop and repaired again counted as in paragraph 4?

A. Yes, it would, because we take our records from each movement.

Mr. Mason: I take it that ordinarily the car is first stopped at a shop and those stoppages appear in the fourth column of the Part 3?

A. Yes, sir.

Q. And it is stopped at an outside point only when it is destined for lading to a shop that would require an out-of-line or back haul?

A. Yes, take for instance in our San Francisco territory cars coming in under load made empty in San Francisco. We repair them at Bay Shore or Oakland and make the necessary inspection there rather than send them back to Roseville. However if they found cars there that were [fol. 1802] not suitable and required work they couldn't do or were not equipped to do at those points they would be billed back to Roseville.

Q. You show also in Part 3 reference to cars repaired or set aside for retirement or rebuilding on account of being unsuited for further use. How do you determine whether a car is to be retired or not?

A. It is inspected by the P. F. E. organization and if in their judgment it would not warrant further repairs for service without rebuilding, then the representatives of the Southern Pacific and Union Pacific railroads are notified and they send inspectors and a joint inspection would be made of each car to determine what should be done with it, whether it should be rebuilt or dismantled.

Q. Why do you call in the Southern Pacific and Union Pacific individuals jointly?

A. We are owned jointly by the Union Pacific and Southern Pacific railroads and they require that to justify the rebuilding or destruction of the car.

Q. Are cars sometimes rebuilt after being set aside as unfit for further use?

A. Oh, yes.

[fol. 1803] Q. And in some instances they are retired and destroyed, are they?

A. Yes, sir, the committee of inspectors pass on that and usually their recommendations are followed.

Q. I call your attention to an exhibit in one sheet entitled, "General Instructions for Inspecting Cars," identified further as Sketch No. 359.

Mr. Mason: Your Honor, we ask that this exhibit be marked No. 137 for identification.

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 137 for identification.

Mr. Mason: Is exhibit No. 137 for identification a reproduction of instructions issued by you, Mr. Cartmill?

A. Yes, sir.

Q. Is that your facsimile signature which appears in the lower lefthand corner?

A. Yes, sir.

Q. Are these instructions which appear on the face of this exhibit general instructions issued by you and currently in effect?

A. They are, yes, sir.

Q. Were these instructions especially prepared for purposes of this case?

[fol. 1804] A. No, sir.

Q. I take it this is simply the equivalent of a photostatic reproduction of a current publication issued by you to your forces?

A. That is what it is, yes, sir.

Q. Are these instructions applicable at all of your shops?

A. Yes, sir.

Q. Are they applicable to your forces at outside points?

A. Yes, sir, with the exception of the underframe inspection. We do not engage couplers or inspect wheels at outside points.

Q. What forces perform those inspections?

A. Railroad forces.

Q. Your regular shop inspection includes inspection of the running gear as well as the refrigeration part of the car itself, does it?

A. Yes, sir, at the shops they take care of the air brakes and all work and at outside points they take care of the body work.

Q. Are these rules currently in force at all of these points?

A. Yes, sir.

Q. Are they complied with by your forces?

A. Yes, sir, I think they are.

[fol. 1805] Q. Do you make periodic checks through your supervising forces to determine whether they are being complied with and carried out?

A. I do.

Q. Do you have records of the inspections made by your inspectors purportedly pursuant to those instructions?

A. Yes, sir.

Q. Are those currently maintained in your office?

A. Yes, sir.

Mr. Mason: Have you any questions, Mr. Strouss?

Mr. Strouss: No.

Mr. Mason: We offer the exhibit in evidence as No. 137.

Mr. Strouss: No objection.

The Court: It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 137.")

Mr. Mason: Mr. Cartmill, are the inspections made pursuant to your instructions in addition to any inspections which may be made by the railroad forces?

A. They are made independently of any railroad inspection.

[fol. 1806]. Q. Do they in any way supersede railroad inspections?

A. No, sir.

The Court: Is there a necessity for a dual inspection both by the railroad forces and your forces?

A. I am not entirely familiar with the railroad inspection but I think they require inspection of all trains when they are made up before departure and that would be regardless of the fact that we had done the same thing an hour or two before. They do that anyway in routine handling.

Mr. Mason: I think that is all we have of Mr. Cartmill.

Cross-examination.

By Mr. Strouss:

Q. You don't mean to testify, Mr. Cartmill, that the railroad's inspection is the same as this shown on your diagram?

A. No, sir.

Q. They wouldn't do this sort of an inspection?

A. No.

Q. What is the length of one of these cars, I notice that your exhibit doesn't show that. By the way, is exhibit No. 135 drawn to scale?



[fol. 1807] A. No, I don't think that is to scale. You want what particular dimension?

Q. I wanted the length of a P. F. E. car?

A. Of course we have a good many cars and there are some fractions of inches difference in the lengths. Length over couplers is about 44 feet, 9 inches.

Q. Is the Pacific Fruit Express a member of the American Association of Railroads?

A. We are associate members, yes, sir.

Q. Do you comply with the rules of interchange, I notice you mentioned those in your testimony?

A. Yes, we do.

Q. One of the rules of interchange is identical with your policy adopted to complete installation of AB brakes by January 1, 1945?

A. Yes, sir.

Q. That is one of the requirements?

A. That is the present requirement.

Mr. Strouss: I understand that counsel for the defendant will have those rules of interchange and introduce them.

Mr. Mason: Yes, we probably will have the rules themselves as an exhibit or excerpt from them.

Mr. Strouss: The subject of air brakes was introduced [fol. 1808] more by the court than by counsel. I wanted to ask if you intend to have a witness with respect to air brakes?

Mr. Mason: We didn't intend to go into the details of the differences between the AB brake and the K type triple with Mr. Cartmill.

Mr. Strouss: Will you have a witness later on that?

Mr. Mason: To develop that difference?

Mr. Strouss: Yes. It has been brought up here now and I don't like to leave it without a more detailed discussion of it.

Mr. Mason: I cannot say that we definitely planned to have such a witness, at least not in our case in chief. It might become necessary at some stage of the case to do that but we hadn't made any definite plan to that end at all at the present time.

Mr. Strouss: Mr. Cartmill, in response to the court's question you had stated generally the difference between

the AB brake and the K triple valve. Can you give that difference in more detail?

A. I am not an air brake expert but I do know a little about it. As far as the difference between a K valve and an AB valve, it is very intricate and requires someone [fol. 1809] with definite knowledge of the very delicate workings of those valves to explain the differences, but in general I believe a car equipped with an AB valve will respond more quickly to the engineer's valve and a surer setting of the brakes instantaneously with the movement of the valve in the engineer's cab more so than the K valve.

Q. One of the features which are recommended by the AB is the quick action feature?

A. And a uniform application of brakes.

Q. By that you mean a more rapid transmission of the air wave through the brake by and through the train?

A. Yes, sir, the A and B valve arrangement on a car will respond more quickly to the engineer's movement of his valve in the cab than the K valve. That is my understanding for the need for it, that they can be assured of that.

Q. There are two separate auxiliary reservoirs in connection with the AB valve, that is true?

A. Yes.

Q. The emergency reservoir being separated from the service?

A. That is right.

Q. Which is not true of the K valve?

A. No, sir.

[fol. 1810] The Court: Well, Mr. Cartmill, is the air brake on the P. F. E. cars different than it is on ordinary modern boxcars?

A. No, sir, it is the same brake that is used on the freight cars generally.

Mr. Strouss: Of course, there is no one type of brake that is on all cars at the present time, either P. F. E. or all other cars; there are two types of brake that are generally used?

A: I think the two we are talking about are most generally used. There are other valves used, but these are most generally in use, but they all function on the same air reductions in the one as the other, they all function practically the same.

Q. Well, of course, the AB was developed to overcome difficulties encountered in the K triple valve, isn't that true?

A. I will tell you from experience, and I have seen a

great many valves developed and come to know them in the forty years that I have been repairing cars, and there has always been a question at the time of introducing a new type as to whether it does do and has the improvements that are recommended for it. I think that is so today with the AB valve. There are some people that know more about it than [fol. 181] I do that do not give the credit to the AB valve that is claimed for it.

Q. The AB valve?

A. The AB valve. We are in a transition. We go from one quick action to the K valves that have the retarding release feature, now we go to the AB, and since its introduction there have been changes made in them trying to improve it.

Q. Is it your opinion the AB valve is an improvement over the K triple valve?

A. Well, so far it is doing a very good job.

The Court: Do I understand that by January of 1945 that that will be standard equipment on all cars?

A. On all P. F. E. cars, that is our present plan.

Mr. Strouss: That, of course, isn't a certainty. That is the rule or policy now adopted?

A. That is right. That is recommended by the A. A. R. Association.

Q. The K triple valve is still the valve which is on a great many of the cars?

A. In most general use, yes, sir.

Q. Are you familiar with the tests that were made by the [fol. 182] American Association of Railways, airbrake tests?

A. I was present at Purdue University when the tests were made.

Q. The rack tests?

A. Yes, sir.

Q. How about the road tests?

A. I wasn't on that.

Q. Are you familiar with the report that was made in connection with those tests?

A. No, I am not familiar with that. I have read it, but I am not very familiar with it.

Q. Those tests were made by the American Association of Railways?

A. I understand they were, in association with the railroad employees and the airbrake company employees.

Q. Following an order of the Interstate Commerce Commission?

A. I don't know what prompted it.

Q. And for the purpose of attempting to develop a more efficient brake?

A. I understand so, yes.

Q. That is what they were attempting to do at Purdue with the rack tests?

A. Yes, demonstrating what could be done.

Q. Do you know what the results of the rack tests [fol. 1813] were?

A. Well, the AB valve was the result.

Q. It is the ultimate result?

A. It is the ultimate result.

Q. There were three brakes which were recommended for road tests, at that time; isn't that true?

A. Yes, that is right.

Q. That was the K triple, and the Westinghouse F-5 and the Westinghouse F-3?

A. I am not familiar with just what was recommended at that time.

Q. Now, these cars that are rebuilt, I believe you testified on direct examination, that when a car is rebuilt the new appliances shown as added in 1936 are added when a car is rebuilt?

A. Generally they are.

Q. You don't mean that each of these new appliances is added in every instance?

A. No, sir.

Mr. Strouss: I think that is all.

The Court: Well, Mr. Cartmill, do I understand that in a given train that there might be cars, P. F. E. cars or other cars, some of which are equipped with your AB valves, and others with the K triple valve?

[fol. 1814] A. Yes, sir.

Q. Yet they would work all right?

A. Yes, sir.

Q. For the engineer up in the cab, he could apply the brakes and the car equipped with the AB brakes, that would function properly, and the next car to it might be equipped

with a K triple valve, and it also would function with the same application?

A. Would be just exactly as good as the AB, Judge; wouldn't be any difference at all, and might not, but generally they do, they operate just the same, but he is sure of it with the AB valve; he has more assurance than he does with the other type, but they will operate together and in unison, and are doing that every day.

Mr. Mason: In practically every train?

A. Yes, sir.

Mr. Strouss: The greater percentage of valves now are still the K type triple valve?

A. I think on the older equipment, yes. All the new cars coming out have the AB valves, of course.

Q. There are probably seventy per cent of the cars in service that are equipped with K triple valves?

[fol. 1815] A. I don't know what that percentage might be.

Q. Of course, in your statement just made that one will function just as well as the other, do you mean that the K triple valve is just as efficient a brake as the AB valve? Is that your testimony?

A. Well, I didn't want to be placed in the position to be the judge, but I was just giving my opinion based on a long time of service and seeing a good many different types of valves, and in those years I have been out on the road and conducted tests for weeks at a time on airbrakes, and I have seen these recommendations made and improvements, or so-called improvements made, and eventually they were not so hot either.

Q. One of the complaints or difficulties that was claimed with respect to the K valve was undesired emergencies occurring after a service application in many instances, and the AB valve is supposed to have overcome that?

A. Well, it does, I believe, have a better reputation now than the K valve.

Q. But whether it does after it has been in operation some time or not, you are doubtful?

A. I imagine that in the evolution of air brakes they will probably develop one that is even better than the one we [fol. 1816] have today; I hope so.

Q. Of course, there was that undesired feature in connection with the K valve?



A. We had some trouble with undesired quick action and that has been corrected in the K valve in most cases, it has with us.

The Court: But the trainmen in making up any given train wouldn't pay any particular attention to the kind of valve on a particular car in placing all of one type together?

A. No, sir; he knows they will all work the same. They are all the same to switchmen.

Mr. Strouss: What do you mean, they all work the same? Of course, in the functioning of the AB and K triple valve, there is quite a bit of difference in a number of respects, isn't there?

A. Yes; they have claims that the AB valve will do certain things that the K valve will not, but when you get up in the cab of an engine and make the brake application, all the brakes will go on, and when you pump them off, all will be released.

Q. Of the release, the AB valve, one of the features claimed for the AB valve is, is it not, that in the separation of the auxiliary reservoir separating the emergency and the [fol. 1817] service, that in the rebuilding of the air in the brake pipe and in the service reservoir, the auxiliary reservoir will aid, and in that way speed up the action of the brake?

A. That is right, that is claimed for it.

Q. That feature isn't in the K valve?

A. No, that isn't there. No, I have no brief for the K valve, but I do know there are a lot of claims made for these improved devices that often in service we don't find.

Mr. Strouss: That is all.

Redirect examination.

By Mr. Mason:

Q. Mr. Cartmell, you said, in your answer to the Court, that the trainmen know that these brakes will all apply the same. You mean that he knows that the brakes will be applied to the wheels to stop the car?

A. That is right.

Q. You spoke of the undesired emergency action after a service application with the K type triple valve. Has there

been any change in the graduating spring of the K triple valve for that purpose?

A. Yes, in some tests I was on, we developed that it was desirable to have the graduating spring tension increased, [fol. 1818] and by doing that we found that eliminated a great deal of the undesired quick action.

Q. Is the heavier graduating spring now a standard requirement in K type triple valves?

A. It is on all P. F. E. cars where the K valve is employed.

Q. Is it one of the A. A. R. requirements?

A. Yes, it is a standard.

Q. That you meet?

A. Yes, we meet that.

Q. How long has that been a standard requirement?

A. Oh, that has been a number of years. The tests were conducted along about 1915 that I referred to. We have been using it every since.

Q. Do you now operate any P. F. E. cars which do not have the graduating spring changed?

A. No, they all have the heavier springs.

Mr. Mason: That is all.

Recross examination.

By Mr. Strouss:

Q. Of course, that doesn't overcome the undesired emergency resulting from failure to build up the air in the auxiliary reservoirs following the service application of the [fol. 1819] brakes in long-train operations?

A. Well, I predict that there will be undesired quick action for a long time yet.

Mr. Strouss: That is all.

Redirect examination.

By Mr. Mason:

Q. Mr. Strouss referred to long-train operation. Does the length of train have any effect on the undesired quick action?

A. Well, I don't think so. I think a faulty brake might have, but if they were all in perfect order, I don't believe

there would be any difference in how many cars you had, if they were all right at the start.

Recross-examination.

By Mr. Strouss:

Q. Mr. Cartmill, of course, the operation of the brake is controlled from the engine, isn't it?

A. Yes, sir.

Q. And the air wave begins from the engine?

A. Yes, sir, that is right.

Q. Now, I just want to show you defendant's exhibit No. 118, and ask you if you believe that an air wave starting at the engine up here is going to get back to that caboose back [fol. 1820] there as quickly as it will up here at the middle of this train.

Mr. Mason: Just a moment. My question, and I suppose that this recross-examination should refer to my question, had reference to the undesired quick action; now, this question has to do with the application of the air from the engine. I have no objection to the question, if it has to do with undesired emergency action.

Mr. Strouss: Of course, undesired emergencies result from the failure to build up the air in the rear of the train in a great many instances?

A. Not necessarily.

Q. But in many instances, isn't that true?

A. No, I don't think so.

Q. Never does?

A. Not to my knowledge. I have never tested a train of the length that this seems to be, I don't know how many cars are in there.

The Court: One hundred sixty cars, I believe is the testimony.

The Witness: I have never conducted any tests on a train that long.

Mr. Strouss: Will you read my previous question. [fol. 1821]. (The following question was read by the reporter: "Now, I just want to show you defendant's exhibit No. 118, and ask you if you believe that an air wave starting at the engine up here is going to get back to that caboose back there as quickly as it will up here at the middle of train?")

A. Well, it stands to reason that it takes time for anything to move. Of course, if the air starts from the engine, it would have to travel the length of 160 cars to get there, if you were charging your train.

Mr. Strouss: That is all.

The Court: May this witness with his records be excused?

Mr. Strouss: Yes.

The Court: The court will be at recess until two o'clock.

(Thereupon, the court stood at recess until January 7, 1941, at two o'clock P. M.)

[fol. 1822] January 7, 1941, Two o'clock, P. M.

Proceedings were resumed at this time as follows:

Mr. Mason: We will call Mr. Weeks.

R. H. WEEKS was called as a witness on behalf of the defendant and being first duly sworn, testified as follows:

Direct examination.

By Mr. Mason:

Q. Please state your name to the reporter, Mr. Weeks.

A. R. H. Weeks.

Q. Are you employed by the Atcheson, Topeka & Santa Fe Railway Company, Mr. Weeks?

A. I am.

Q. In what capacity?

A. Car accountant.

Q. Where are your headquarters?

A. Topeka, Kansas.

Q. As car accountant, who is your immediate superior?

A. W. P. Dolan, Superintendent of car service.

Q. Do you report through Mr. Dolan to the general superintendent of transportation?

[fol. 1823] A. Yes, sir.

Q. And receive your instructions to some extent from the general superintendent of transportation?

A. Yes, sir.

Q. As car accountant, will you describe your duties briefly?

A. The car accounting office keeps a record of the movement of all the cars that move on the Santa Fe System, the movement of the engines, all the accounting in connection with the cars themselves, the earnings, and also work up the statistics which are the basis for all the System reports.

Q. Do those statistics include the statistics relative to car and train movements?

A. They do, yes, sir.

Q. The statistics are sometimes referred to as the car-mile and train-mile figures?

A. Yes, sir.

Q. Are those made up by you or in your office under your supervision?

A. In my office under my supervision, yes, sir.

Q. How long have you occupied your present position?

[fol. 1824]. A. Five years.

Q. Did you have previous service in the office of the car accountant at Topeka?

A. I have had thirty years in the office in Topeka.

Q. In making up your statistics of train-mile and car-mile movement for the System, what type of underlying report, naming it by name, do you principally use?

A. Conductor's wheel report, which is the official record, and the only basis for all statistics and all the accounting.

Q. Do the conductors' wheel reports reach your office regularly and periodically?

A. When a conductor has finished his run, he immediately mails in the wheel report.

Q. To you at Topeka?

A. Yes, sir.

Q. Then you assemble all the wheel reports from the System and make your records accordingly in your office?

A. That is correct.

Q. Are the wheel reports bound up into books?

A. They are.

Q. By districts?

A. By divisions and by dates.

[fol. 1825]. Q. Are you able to make studies showing the movement of trains and cars by divisions or districts or by state lines from the wheel reports?

A. Yes, sir.



Q. Did you bring with you to Tucson certain wheel reports of the Santa Fe from your office?

A. I did.

Q. About what quantity?

A. About 18,000 pounds, a baggage car full.

Q. Mr. Weeks, I should like to have you refer, if you will, to a statement of three sheets entitled, "The Atchison, Topeka & Santa Fe Railway Company. Typical Examples of Freight Trains Handled on Main Line between Chicago, Illinois, and Gallup, New Mexico, February 1st to 10, 1940, Inclusive," the third sheet bearing a similar title but referring to main line between Needles and Bakersfield, and Barstow and San Bernardino, California. Have you the statement before you?

A. Yes, sir.

Mr. Mason: We ask that this statement be marked defendant's exhibit for identification next in order, Your Honor.

The Court: It may be marked.

[fol. 1826] The Clerk: Defendant's Exhibit No. 138 for identification.

Mr. Mason: Did you prepare the details of the showing set forth on Exhibit 138 for identification, Mr. Weeks?

A. It was prepared in my office under my supervision, yes, sir.

Q. That is, of course, except as to the ruling grade?

A. Yes, sir.

Q. And from what sources was the exhibit prepared?

A. From the conductors' wheel reports.

Q. Now, I notice that, as the title shows, there are certain districts and also certain dates selected. Did you make the selection of the period covered by the exhibit?

A. I did not. They were selected by the general superintendent of transportation.

Q. Is that your superior, the general superintendent of transportation?

A. Yes, sir.

Q. That is Mr. J. J. Mahoney?

A. Yes, sir.

Q. He directed you then to make a study for the first [fol. 1827] ten days of February, 1940, is that correct?

A. Yes, sir.

Q. Did he select also the districts that were to be studied for this purpose?

A. Yes, sir.

Q. Now, is all of the information appearing on this exhibit, with the exception of the ruling grade, set forth in detail as to each of the trains on the underlying wheel reports?

A. Yes, sir.

Q. Does the exhibit show all of the trains operated between the points shown and for the period mentioned?

A. Yes, sir.

Q. It doesn't relate merely to through trains, then?

A. No, trains operated on the main line.

The Court: That would include any local trains?

A. Yes, sir.

Mr. Mason: Now, the exhibit is obviously, Mr. Weeks, a summary or a computation as to the averages and, of course, the number of trains. Were those computations made in your office under your supervision?

A. Yes, sir.

[fol. 1828] Q. Have they been checked?

A. Yes, sir.

Q. Has the exhibit throughout been checked against the underlying sources?

A. It has.

Q. Will you say, in your opinion, whether or not it is true and correct to the best of your knowledge and belief?

A. I can. It is correct, to the best of my knowledge and belief.

Mr. Mason: Have you any questions, Mr. Strouss? I may say, we expect to call Mr. Mahoney, who is present in the court room, as to the reason for the selection of this period and, of course, the ruling grade can be checked against the exhibit already introduced by Mr. Blanchard, and the distances also introduced by Mr. Blanchard, and the distances also may be checked in that way.

Mr. Strouss: I have no questions.

Mr. Mason: We offer the exhibit in evidence as Defendant's Exhibit 138.

Mr. Strouss: The same objections as made to the exhibits offered before the recess.

The Court: The objection is overruled. It may be admitted.

Mr. Mason: I take it there is no objection on the basis that the underlying documents are not here.

[fol. 1829] Mr. Strouss: I want to ask what the wheel reports cover.

A. You mean that I have in the car?

Q. Yes.

A. They cover February first to tenth.

Mr. Strouss: My objection will go to that too.

Mr. Mason: Do you wish those wheel reports made available?

Mr. Strouss: I stated before that when this type of exhibit was offered with the wheel reports for a ten-day period with the testimony that it is a typical operation, without submitting the records for a full year's period and there was a chance to examine as to that period, certainly it is calling for a conclusion.

Mr. Mason: Now, now, as to the question whether the exhibit represents a typical period, we intend to ask Mr. Mahoney as to that, because he made the selection of the period, but the witness prepared it from the underlying documents.

Mr. Strouss: I understand, but I don't want to waive any objections.

The Court: If I understand the situation, Gentlemen, the wheel reports from which this data was taken are here [fol. 1830] in Tucson?

The Witness: Yes, sir.

Q. Available for the use of counsel and any examination he wants to make?

A. That is correct, Your Honor.

Mr. Strouss: That is for the ten-day period only.

The Court: Yes, for the ten-day period. The objection is overruled.

(The document referred to was received in evidence and marked, "Defendant's Exhibit No. 138.")

Mr. Mason: Now, Mr. Weeks, I call to your attention Sheet 3 of the exhibit, where there appears the statement at the foot of the sheet, "No local trains." Does that mean

that you didn't include any local trains or that no such trains were operated?

A. There were no local trains operated in this territory.

Q. During this period?

A. That is right.

Mr. Strouss: Your wheel reports, the same as any other railroad, just show the matters in connection with the particular train that the wheel report covers?

[fol. 1831] A. That is correct, yes.

Mr. Mason: Mr. Weeks, I call your attention now to a statement consisting of six pages, bearing on the first sheet the title, after the name of the railroad company, "Maximum Number of Cars Handled in Various Main Line Passenger Trains between Chicago, Illinois, and Los Angeles, California, February 2nd to 8th, 1940, Inclusive," and bearing on succeeding sheets a similar title, although on page four a different period is referred to, likewise, on pages 5 and 6, the period there beginning November 17th to 23rd, 1940, inclusive; have you that statement before you?

A. I have.

Mr. Mason: Your Honor, we ask that this be marked "Defendant's Exhibit 139 for identification."

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 139 for identification.

Mr. Mason: Did you prepare Defendant's Exhibit No. 139 for identification, Mr. Weeks, or supervise its preparation?

A. It was prepared in my office under my supervision. [fol. 1832] Q. From what sources was it prepared?

A. Passenger conductors' wheel reports.

Q. Are the passenger conductors' wheel reports similar in general consist to the freight train wheel reports?

A. Yes, sir.

Q. And are there any computations other than the addition of the number of trains referred to appearing on this sheet—yes, I see that there are percentages.

A. Yes, sir.

Q. Did you make those computations?

A. Yes, sir.

Q. Has the exhibit been checked against the underlying wheel reports?

A. It has been.

Q. Do the mileages appear on the wheel report as well as the other information?

A. They do not.

Q. From what source do you take the mileages?

A. The clerks in the statistical mile reports give the distances that the cars actually run.

Q. The wheel reports show the mileage, the station by mileage at the origin point and the station by mileage where the car is switched off?

[fol. 1833] A. That is correct.

Q. You obtained the mileage in that way?

A. Yes, sir.

Q. I don't know whether I asked you, did you check these computations to determine whether they were correct?

A. Yes, sir.

Q. Will you say whether or not the exhibit is a true and correct reflection of the underlying sources?

A. It is, to the best of my knowledge.

Q. Now, does this include all of the main line through passenger trains operated over these particular districts during the periods shown?

A. Yes, sir, indicated by number and also by name.

Q. Did you select the periods themselves?

A. No, sir, they were also selected by Mr. J. J. Mahoney.

Q. Does this include all of the main line passenger trains operated between Chicago and Los Angeles over either of the alternate routes described by Mr. Blanchard?

A. Yes, sir.

Mr. Mason: Have you any questions on the exhibits, Mr. Strouss?

[fol. 1854] Mr. Strouss: No questions.

Mr. Mason: We offer the exhibit as No. 139 with the explanation that Mr. Mahoney will be called to testify in connection with this exhibit as to the typical character of the period studied and the reasons why these particular periods were selected.

Mr. Strouss: The same objection as previously.

The Court: The objection is overruled. It may be admitted.



(The document referred to was received in evidence and marked, "Defendant's Exhibit No. 139.")

[fol. 1835] Mr. Mason: Mr. Weeks, have you before you a statement in one sheet, typewritten, that is, the one that has been distributed is typewritten, bearing title, "Atchison, Topeka and Santa Fe Railway, Freight Train Miles and Freight Car Miles, Main Line Territory between Clovis, New Mexico, and Gallup, New Mexico, and between Gallup, New Mexico, and Needles, California, Years 1923-1939, Inclusive"?

A. I have.

Q. Did you prepare that statement?

A. Yes, sir.

Q. Was that likewise prepared from the conductors' wheel reports relating to those districts?

A. It was.

Q. And relates only to freight train service in those two districts?

A. Yes, sir.

Q. Does it include all freight trains operated in those two districts?

A. In those two districts, yes, sir.

Q. Would that include any local trains which may have been operated as well as through trains?

A. Yes, sir.

Q. There are certain computations which appear in lines [fol. 1836] 7, 14, 20, and 21. Are those simple additions?

A. Yes, sir.

Q. Of the figures which appear immediately above for the several years?

A. That is correct.

Q. Has the exhibit been checked as to those computations and additions as well as the figures themselves against the wheel reports?

A. It has.

Q. Will you say whether or not it is true and correct?

A. To my best knowledge it is correct.

Mr. Mason: I would say, Your Honor, that this exhibit is for the purpose of laying a foundation for a later comparison between certain results of operation in the territory between Clovis and Gallup on one hand, which is entirely in New Mexico, and the territory between Gallup

and Needles on the other hand, which is largely in Arizona. Have you any questions, Mr. Strouss?

Mr. Strouss: No questions.

Mr. Mason: We offer the exhibit in evidence as defendant's exhibit No. 140.

Mr. Strouss: The same objection, except that I am not making the objection that the underlying records are not [fol. 1837] here. I take it you don't have all these wheel reports and I am not objecting on that ground but with that exception my objection still remains.

The Court: Objection overruled, it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 140.")

Mr. Mason: I think that is all, Mr. Weeks. Do you wish to cross-examine?

Mr. Strouss: No questions.

The Court: You are reserving your right to cross-examine him later or are you through with him now?

Mr. Strouss: No, I understand Mr. Mahoney will testify now.

The Court: Very well.

(Witness excused.)

J. J. MAHONEY was called as a witness in behalf of the defendant and being first duly sworn testified as follows:

Direct examination.

By Mr. Mason:

Q. Will you state your name, please, and your headquarters to the reporter?

[fol. 1838] A. J. J. Mahoney, Chicago, Illinois.

Q. What is your official position with the Santa Fe?

A. General superintendent of transportation of the Atchison, Topeka and Santa Fe system lines.

Q. Does that include the entire system shown in outline on exhibit No. 124, including the lines in Texas?

A. Yes, sir.

Q. How long have you been in the service of the Santa Fe?

A. I entered the service of the Santa Fe in May, 1912, at Pueblo, Colorado, as a switchman.

Q. Have you had railroad experience prior to entering the service of the Santa Fe?

A. Yes, I had five years and eight months in train service with the Denver & Rio Grande Western.

Q. In what capacity?

A. As a trainman and worked between Salida, Colorado, and Pueblo, and Pueblo and Trinidad and La Veta, Colorado.

Q. You mean as a brakeman and conductor?

A. Yes, sir.

Q. Did you have other train service experience with another railroad?

A. I had several years of experience before working for [fol. 1839] the Denver & Rio Grande as switchman and brakeman, for the Rock Island Railroad at Herington, Kansas, and also at Goodland, Kansas.

Q. Since you have been with the Santa Fe what positions have you occupied? You started in as a switchman, you say?

A. Yes, I was first employed as a switchman in 1912; served in the capacity of yard foreman or yard conductor, assistant yard master and general yard master for eight years. I was promoted to general switching inspector of the western lines comprising the territory from Newton, Kansas, to Denver, Colorado, to El Paso, Texas. In 1921 I was appointed general transportation inspector for the same territory. In 1924 I was promoted to train master on the Rio Grande division and served in that capacity for approximately a year, and was promoted to assistant to the general superintendent of transportation in June, 1925. I served in that capacity until July, 1936, when I was promoted to my present position.

Q. Does your jurisdiction now extend to the entire system?

A. The entire Santa Fe system.

Q. As general superintendent of transportation what are your duties, briefly described?

[fol. 1840] A. The duties of my office include the distribution of passenger and freight equipment on the entire system, the supervision of all car service matters, including the interchange of traffic with connecting lines as well as the coordinating of freight train schedules with connecting lines and the supervision of all freight train schedules on the entire system where the freight train operates over

more than one division. I might say that local freight trains that are confined to operations on one division, I don't make those schedules.

Q. Do you in your position have anything to do with the assignment of power?

A. No, I do not, only to the extent that I confer with the vice-president in charge of operations and the assistant to the vice-president in charge of mechanical matters in the assignment of power over the various grand divisions and divisions.

Q. Is it necessary for you in your position to become familiar with the locomotive equipment of the Santa Fe?

A. Yes, sir.

Q. Are you familiar with it?

A. Yes, sir, I am.

[fol. 1841] Q. Are you a member of any carriers' committee having to do with schedules or other transportation matters?

A. Yes, I am chairman of a subcommittee on freight train schedules of the Western Association of Railway Executives. That association comprises all lines west of Chicago, and as chairman of the subcommittee I am charged with the responsibility of making studies of all transcontinental schedules over all routes for the purpose of bringing about uniform schedules both east and west bound from California to the Missouri River gateways as well as Chicago and St. Louis.

The Court: Does that include passenger as well as freight trains?

A. No, Your Honor, that is just freight trains. I might say for the benefit of the court that the duties of this committee that I am chairman of, we cooperate with the perishable industry in California and Arizona, confer with them and it is very essential that that industry have uniform service to all of the principal eastern markets and through the cooperation with the industry and the carriers we are able to bring about a uniform service that gives the shippers of perishable products the knowledge of when they [fol. 1842] ship a car on a given date they know it will be available at the principal eastern markets on a given date, thereby affording them an opportunity to regulate the flow of that traffic into these principal markets.

Mr. Mason: Q. Do your studies of these schedules, especially for the benefit and use of the perishable territory in the origin territory out West here, include any studies of the problem of making the empty equipment available to them and of returning it to western territories?

A. Yes, that is quite a problem during the peak seasons covering the movement of deciduous fruits, vegetables, and potatoes. We in our committee cooperate with lines east of the western lines for the purpose of prompt movement and return of our western ownership refrigerator cars in order that we can take care of the traffic offered.

Q. Do you ever undertake to move empty equipment westbound in expedited service in order to meet loading requirements?

A. Yes, that is common with the Santa Fe. During the months of May and June and September and October of each year we give empty refrigerator cars preferred movement. In fact we give those empty refrigerator cars faster [fol. 1843] movement to California than loaded traffic.

Q. Do you cooperate with your connections in affording that movement?

A. Yes.

Q. Your connections in western territory?

A. Yes, we offer them that same kind of service. We give them—a P. F. E. car, for illustration, expedited movement between Chicago and Kansas City, Kansas City and the Colorado gateways, Pueblo and Denver, and likewise we give those cars preferred movement to Deming and El Paso at certain seasons of the year when we were called upon in order to augment the car supply on the lines which the P. F. E. Company has contracts to furnish refrigerator cars.

Q. In your capacity as chairman of the subcommittee you have mentioned, are you familiar with the practices of your competitors and connections in the western origin territory.

Mr. Strouss: May I have the record show that my running objections go to this testimony.

The Court: Yes.

A. Yes, I am quite familiar with their operations. In fact we worked out joint through schedule service with our



western connections as well as with the lines that join us [fol. 1844] on our eastern terminal.

Mr. Mason: Does this working out of schedules include the lines that compete with you, such as the Southern Pacific?

A. Yes, sir, we have through schedules worked out with the Southern Pacific, accepting traffic from that connection at Deming and El Paso, Texas.

Q. And at California junctions as well?

A. As well as California junctions. We likewise have through connections through the Ogden and Salt Lake gateways, at Pueblo and Denver, and likewise we accept traffic from our connections at Kansas City and move through to Chicago or deliver that traffic at Chicago to eastern connections on a through schedule.

Q. From your knowledge will you say whether or not lines paralleling or competing with the Santa Fe give expedited movement to empty refrigerators during the busy season in the same fashion that you have described for the Santa Fe?

A. Yes, sir, I understand, in fact when we are called upon to assist them in expediting the return of their cars we do that on our lines and turn those cars over at the various gateways to other western connections that perform the same service.

[fol. 1845] Q. Do you travel over the lines of the Santa Fe frequently?

A. Quite often.

Q. About how much of your time on the average is now spent away from the office and out on the lines?

A. That will vary from I would say year to year, but I would say forty per cent of my time is away from the office. Sometimes it will be more, sometimes less.

Q. In prior years has it reached any higher percentage?

A. Yes, when I was assistant to the general superintendent of transportation and served in that capacity for approximately twelve years, my time out on the railroad would be 90 per cent of my total time.

Q. What means of transportation do you use in traveling over the Santa Fe?

A. In my present capacity I use a business car.

Q. Do you always use passenger trains?

A. No, sir.

Q. You sometimes have the business car attached to freight trains?

A. Yes, sir, I do.

Q. Where do you put it in the freight train?

[fol. 1846] A. It is the rear car following the caboose.

Q. You don't spot it next to the locomotive?

A. No. I have made one or two trips where I have told the conductor to pick me up next to the engine and set me out because I was going to make a short jump, rather than have to cut the engine off and run around the train and take a little more time setting the car off the train under that method and I would tell him to handle me next to the engine.

Q. Is it correct that generally your business car is at the rear end of the train?

A. Yes, in the majority of the cases.

Q. Do you make any selection of freight trains according to length upon which you will travel with your business car?

A. No.

Q. Do you ever travel with your business car on trains of more than 70 cars?

A. Yes, quite often.

Q. Are you familiar with the box and refrigerator car equipment owned or operated by the Santa Fe on its lines?

A. Yes, sir.

Q. Is that a necessary part of your duties?

A. Yes, it is.

[fol. 1847] Q. Your experience with the Santa Fe as I recall runs back to 1912?

A. Yes, sir.

Q. You are familiar I take it with the Santa Fe equipment from and since 1912?

A. I am.

Q. I will ask you to look at defendant's exhibit No. 2 showing the chronology of freight boxcars of Southern Pacific ownership up to 1940, since 1900. Have you seen that exhibit?

A. Yes, I have seen this exhibit and I have compared our car construction with this exhibit.

Q. Addressing particularly to the period since 1912 down to date, will you say whether or not the development of Santa Fe boxcar equipment has proceeded generally along

substantially the same lines as indicated by exhibit No. 2?

A. It has.

Q. Does the Santa Fe now operate any cars not of steel or steel underframe construction in main line revenue service?

A. No, sir.

Q. That is of its own ownership?

A. That is right.

Q. Does the Santa Fe operate a particular type of car in [for 1848] refrigerator car service of its own ownership?

A. Yes, we have our own ownership of refrigerator cars.

Q. How are they designated by initial?

A. S. F. R. D.

Q. Were you present in the courtroom when Mr. Cartmull of the Pacific Fruit Express Company testified?

A. I was.

Q. Have you seen a copy of his exhibit No. 135?

A. Yes; I have a copy of it.

Q. Showing the development of P. F. E. car construction, do your S. F. R. D. cars resemble the Pacific Fruit Express cars to any degree?

A. They are almost identical and there is a reason for that due to the fact that both the P. F. E. Company and the Santa Fe in the construction of their refrigerator cars endeavored to build the cars according to the request or desires of our perishable industry in California and Arizona in order that they may, if they wish, load the containers in the cars with the least amount of bulk heading or dunnage, so to speak, that is, gates in the center of the car to brace the loads. The citrus industry can load a load of citrus in either a P. F. E. car or an S. F. R. D. car with [for 1849] one piece or bracing other than the slats between the loads. I think that also applies to the grape industry. The lugs of grapes will fit into the inside dimensions of either car without practically any dunnage whatever other than the strips between the layers.

Q. Are the inside measurements of your cars adjusted for this purpose or designed for that purpose?

A. Yes, the inside dimensions of the S. F. R. D. car is 33 feet, 13 1/2 inches, in length. Some are 33 feet, 25 1/2 inches. The width is 8 feet, 2 inches wide, and the height varies from about 7 feet, 1 inch from the floor rack to the roof to 7 feet, 7 inches from the floor to the roof. That might

not be just exactly the inches, the fractions of inches, but that is approximately the inside dimensions of our car.

Q. Do the P. F. E. cars move over Santa Fe lines from time to time?

A. Yes, sir.

Q. With the same type of freight as carried in the S. F. R. D.'s?

A. Yes, sir.

Q. Do the S. F. R. D. cars move over the Southern Pacific from time to time?

[fol. 1850] A. Yes, sir.

Q. Have you seen a copy of defendant's exhibit No. 4 showing the chronology of passenger coach and chair car design of Southern Pacific Company passenger-carrying cars?

A. Yes, sir, I have reviewed that.

Q. Are you familiar with passenger cars of the Santa Fe?

A. Yes, sir.

Q. Referring to exhibit No. 4 will you say whether or not the development of Santa Fe passenger cars has proceeded along substantially the same lines as are indicated by exhibit No. 4?

A. They have.

Q. Does your company operate these lightweight stream-line units, not necessarily the articulated but the other single unit types?

A. Yes.

Q. In regular revenue passenger service?

A. Yes.

Q. Do you have in main line passenger service any passenger-carrying cars not of steel construction?

A. No, we do not, that is, the steel underframe. We have some cars with the steel underframe with wood bodies that [fol. 1851] we still operate on some of our branch line trains but in our main line passenger trains, we do not.

Q. I will ask you to refer to defendant's exhibits Nos. 5 and 6 which relate to the development of locomotives. Referring first to the chronology of freight locomotives shown on exhibit No. 5, will you say whether or not the Santa Fe has had in the past or now has freight locomotives similar in design and tractive effort to those indicated by that exhibit?

A. We do, with one exception. We do not have the AC type. Our heaviest locomotive is the Mountain type, the 2-10-2.

Q. Sometimes called the "Santa Fe" type?

A. Referred to as the Santa Fe type.

Q. Do you have a locomotive of the 2-10-4 wheel arrangement?

A. Yes, we do.

Q. What is the tractive effort of the 2-10-4's?

A. The 2-10-4 Santa Fe type, 93,000 is the tractive effort and the weight on drivers, 371,990; the 2-10-2's which operate in mountain territory, the tractive effort is 85,360, weight on drivers, 320,000 pounds. Those are the heaviest locomotives that we have.

[fol. 1852] Q. And those are presently in service, are they, in various parts of your line?

A. Yes, sir.

Q. Are those in service, or have they been in service in territory west of Albuquerque, including main lines in Arizona?

A. Yes, sir.

Q. Now, referring to the passenger locomotive showing for the Southern Pacific, which is on defendant's exhibit No. 6, have you examined a copy of that exhibit?

A. Yes, I have.

Q. Does the Santa Fe have passenger locomotives, or locomotives used for both freight and passenger service, which correspond to or resemble those shown on Exhibit No. 6?

A. Yes, they do, with the exception that we do not have the A. C.

Q. There are no A. C.'s shown?

A. I notice some passenger trains are handled with your A. C.'s, but with that exception, our passenger power is quite similar to yours.

Q. You have a passenger locomotive with the 4-8-4 wheel arrangement?

A. Yes, and the 4-8-2.

Q. What is the tractive effort of your 4-8-4 locomotive? [fol. 1853] A. 66,000; weight on drivers, 269,400.

Q. And of your 4-8-2 locomotive?

A. 56,800; weight on drivers, 243,100.



Q. Do you have a Pacific type locomotive in passenger service? A 4-6-2 arrangement?

A. Yes, we do.

Q. I say, do you have one; I mean, do you have that type, a considerable number?

A. Yes, we have that type, a 4-6-2. The tractive force is 39,650; weight on drivers 167,500.

Q. Are those various types of passenger locomotives to which you have just referred in service in the territory west of Albuquerque, including the main lines in Arizona?

A. Yes, they are.

Q. You also use locomotives not propelled by steam, do you not?

A. Yes, by Diesel power.

Q. Do you use those in freight service as well as passenger service?

A. We have two freight Diesel locomotives. The first trip was made in freight service; started from Kansas City, Missouri, Saturday, January fourth.

[fol. 1854] Q. Have they been used east of Kansas City from time to time?

A. We had one on our railroad along in February of last year that we tested and made some runs with.

Q. Is that the M 103, referred to on the first sheet of Exhibit 138?

A. Yes, sir.

Q. It is referred to also on the second sheet at least once?

A. Yes.

Mr. Strauss: When you say "sheet," what are you referring to there?

Mr. Mason: No, 138, the freight train exhibit.

The Witness: If I may, I want to include another type of locomotive that was not on my other sheet that we use in passenger service; what we call the 3765 class.

Q. What is the wheel arrangement?

A. 4-8-4. That is the latest type passenger locomotive purchased by our company. The tractive force is 66,000 pounds; weight on drivers, 286,890.

Q. Does the Santa Fe use oil or coal as a fuel for its locomotives, or both?

A. We use both. On our transcontinental main line from [fol. 1855] Chicago to Los Angeles, or San Diego, San Francisco, through Amarillo, the Clovis territory, we use oil from Kansas City to California, except for the district between Winslow and Clovis, where we still burn coal. Over the Northern route, all freight service burns coal, and all passenger service burns oil.

Q. That is the La Junta route, is it?

A. That is correct; over the La Junta route.

Q. And you use oil entirely west of Winslow, Arizona?

A. Yes, sir, I might conclude by saying that we use coal on all freight trains between Chicago and Kansas City, but at the present time approximately fifty per cent of our passenger locomotives are equipped to burn oil.

Q. In that territory?

A. In that territory.

Q. Where you use coal-burning locomotives on main lines, are those hand-fired or stoker-fired?

A. Stoker-fired, with the exception of the smaller engines, they are hand-fired. The Mikado types are hand-fired, the Mountain types are stoker-fired.

Q. What type of reverse gear is used on these locomotives? [fol. 1856] Does the engineer have to use his own power, or does he have some assistance?

A. What I would call an air reverse—I can't tell you the name of it.

Q. Sometimes called a power reverse gear?

A. Yes.

Q. Are you familiar in a general way with the character of the commodities handled by the Santa Fe eastward and westward on its main line, particularly across Arizona?

A. I am.

Q. What are some of the principal commodities handled in eastbound movement within or across Arizona upon the main line?

A. Predominantly perishables, fruits and vegetables, other edible commodities such as canned goods, dried fruit, sugar, products of forests, lumber, and there are some ores moving from Arizona out of the state on our line as well as bullion, and then, at certain seasons of the year, there is a considerable livestock movement east.

Q. Now, what is the general description of the commodities moving westbound on the main lines which cross the state of Arizona?

A. General manufactured articles, or steel and building [fol. 1857] materials, general run of merchandise. In the last few years we have had quite a movement of automobile parts to the assembling plants in California.

Q. Do you have any considerable livestock movement either steadily or seasonal westward?

A. We have almost a constant movement of livestock, both hogs and cattle, for slaughter; then there are certain seasons of the year that we do have more livestock, particularly hogs, that will move in volume, and there is some feeder stock to the feed lots in California that originates in the Panhandle of Texas, Oklahoma, that we move to California.

Q. Is there a substantial movement of empty cars west-bound?

A. Yes. Particularly our movement of empty refrigerator cars. There are times that we have moved some empty boxcars to California, but ordinarily, the boxcars going west under load will take care of the traffic originating in California and Arizona both.

Q. Does the Santa Fe have a substantial branch line mileage on its system?

A. Yes.

Q. Do you recall approximately the percentage of branch [fol. 1858] line mileage to the total mileage between Chicago and California?

A. I can tell you about what it is for the System. I would have to calculate it on the main line.

Q. I mean for the entire System.

A. Our total mileage operated is 13,414.33. Of that total mileage 6,619.40 is main line mileage, and 6,794.43 is branch line mileage.

Q. Now, you have spoken of the predominant eastward movement consisting largely of perishable fruits and vegetables and other edible commodities. Do you maintain schedules relating to this eastward movement?

A. Yes.

Q. Those are the schedules to which you previously referred as being the result of the efforts of the committee of which you are chairman?

A. That is correct.

Q. Are you familiar with the development of the eastward schedules as they operate over the Santa Fe and in connection with the carriers with which it connects?

A: Yes, I am.

Q: How are these schedules made up; that is, upon what [fol. 1859] departure points and departure hours, are they based?

A: From California, traffic loaded on a given day is concentrated or assembled on the various lines at Roseville, Sacramento, Bakersfield, San Bernardino, and Colton, California.

Q: Which of those points are Santa Fe concentration points?

A: San Bernardino and Bakersfield. The basic schedule for the movement of traffic originating in California is that traffic will depart from those concentration points three A. M. of the day following the date of loading, and due to arrive at Chicago 12:30 A. M. of the sixth day, or a total of 139 hours and thirty minutes overall running time, predicated upon a three A. M. departure.

Q: Now, suppose that you have four or five trains due to depart from the concentration point at Bakersfield at three A. M. of a particular day. Can they all depart at three A. M.?

A: No.

Q: Do any of them actually depart at three A. M. in actual practice?

A: I don't believe we, or our neighboring lines, have had a train out of concentration point at three A. M. [fol. 1860] leaving the date of loading in several years, for the reason that by conference with our fruit industry in California, under what we call the pre-cooling plan, we permit shippers of deciduous fruits, grapes, cantaloupes, to pre-cool their fruit until five A. M. following the date of loading. When those commodities are moving, pick-up service is not started by any of the originating lines in California until around five A. M. Using the Santa Fe as an example, we operate nine hundred miles of main line and branch line in Northern California, and we operate pick-up trains over that much mileage, assemble the fruit, and all fruit arriving at Bakersfield by seven P. M. of the day following the date of loading is due for movement out of that point on that date.

Q: And what schedule does that freight take if it arrives at Bakersfield at or prior to seven P. M. following the date of loading?

A. That takes the schedule of three A. M. that same morning. Consequently—

Q. Three A. M. of the morning preceding, is that correct, of the same day?

A. Of the same day. / Consequently, trains bunch up; groups arrive bunched at Bakersfield, and our last section [fol. 1861] out of that concentration point will depart around midnight.

Q. What do you call the time interval between three A. M. when the schedule theoretically commences, and the time of the departure of the individual train that is running on the schedule?

A. We call that the run-off.

Q. From what is the significance of the term "run-off" derived?

A. Well, the basic schedule predicated upon a three A. M. departure of the first day arriving at Chicago 12:30 A. M. of the sixth day, or a total of 139 hours and thirty minutes, that is the maximum schedule, less the basic sixteen-hour run-off; but instead of the sixteen hours under our present plan of operations, or since we agreed with the shippers to permit them to cool their traffic until five A. M., we actually have in our operations a twenty to a twenty-one and even a twenty-two and twenty-three-hour run-off, so we are actually operating on a schedule of about 118 to 121 hours.

Q. When you speak of run-off, does that mean that you so operate these trains as to run off this late departure and make the 12:30 A. M. arrival in Chicago as if they had departed [fol. 1862] at three A. M.?

A. That is correct.

The Court: We will take our mid-afternoon recess.

(Thereupon, a short recess was taken, after which the witness J. J. Mahoney was recalled to the stand and proceedings were resumed as follows:)

The Court: You may proceed.

The Witness: Where I stated that the basic schedule provided arrival at Chicago 12:30 A. M. of the sixth day, I would like to have the record corrected to show that seventh day.

The Court: It may be corrected.

Mr. Mason: That is the seventh morning by thirty minutes.



A. The seventh morning by thirty minutes.

Q. From departure from Bakersfield? Now, is there a similar schedule on traffic originating in the Salt River Valley and handled by the Santa Fe?

A. Yes; there is.

Q. What is the elapsed time, and the departure point on Salt River Valley traffic?

A. The Salt River Valley present schedule provides departure, the basic schedule is depart 11:30 P. M. the day of loading, but through agreement with our shippers in the Valley we depart on two to four o'clock in the morning, arrive at Chicago 11:59 P. M. of the fourth evening, the basic schedule containing 95 hours and 29 minutes, traffic available for fifth morning delivery at Chicago.

The Court: Mr. Mahoney, before I forget it, will you explain this pre-cooling arrangement, and just how that matter works out?

A. Yes. Shippers of deciduous fruits, melons, grapes, they load their cars during the day up until midnight in some instances; and if they give the carrier the bill of lading by midnight, then they are permitted to pre-cool the traffic until five A. M. the following morning. That pre-cooling is generally done by the shipper or his agent, the carrier does very little pre-cooling at the loading stations. This pre-cooling is generally done at the loading station.

The Court: And of what does it consist?

A. It consists of an apparatus that they put in those bunkers that you were questioning about this morning, and with fans they blow the air through the ice and pre-cool the fruits, and then before the car departs from the station they [fol. 1864] fully ice the bunkers to full capacity, and by that arrangement it brings the temperature of the fruit down quickly and the shippers tell us, the carriers, that under that plan of pre-cooling the fruit it arrives at markets and destinations in a much better shape. In fact, they can leave the fruit remain on the trees or the melons on the vine and get riper under that plan of shipping than without the pre-cooling.

Mr. Mason: The pre-cooling is all done before the traffic receives a line haul?

A. I would say that that is the case 97 or 98 per cent of the times, but there are cases where we do move the car from

the loading station where their agency pre-cools the car, for that short distance.

Q. It is all done at either the loading point or in the origin territory?

A. That is correct.

The Court: And this pre-cooling is at the expense of the shipper?

A. Yes, sir.

Q. He pays extra for that?

A. He pays the agency that does the pre-cooling for him.

Mr. Mason: Does he pay an additional charge to the car- [fol. 1865] rier for the additional ice consumed, if you know?

A. Well, if the carrier does the pre-cooling, he does, but in most instances, practically all of the pre-cooling of the deciduous, the melons and the grapes, is done by the shipper or some agency other than the carrier. Now, with the citrus, that is a different story. We do considerable pre-cooling at San Bernardino for the shippers with a pre-cooling plant that we have there.

The Court: Thank you.

[fol. 1866] Mr. Mason: Now, you were speaking of the schedules today as including sixteen and up to twenty one hours of run-off time. Do you actually operate your trains so as to arrive at Chicago yards all at the same time?

A. No. Our operation provides that when we are running the trains in several sections, which is a common practice, the earlier sections are advanced into our outer yard at Chicago sufficiently in advance of the last section so those trains arriving early can be switched and classified, re-iced and delivered to eastern connections, or delivered to the Chicago Produce Terminal if the cars are so billed, and the last train, we figure on it arriving on schedule.

Q. Does the schedule, the basic schedule of 139 hours and 30 minutes from Bakersfield apply to traffic originating over a described extent of territory in Northern California?

A. At the present time the entire state of California gets that service of 139 hours and 30 minutes from concentration points to Chicago.

Q. You mean all points served by the Santa Fe or its short line connections?

A. Yes, sir.

Q. Suppose the traffic originates on the Southern Pacific [fol. 1867] north of Sacramento, let us say at a point like

Oroville or Colusa, and is destined for line haul by the Santa Fe through California junctions with the Southern Pacific; does that receive that service?

A. It will receive that service provided the car is delivered to us at the junction in time to permit us to handle at Bakersfield by seven P. M. of the day following the date of loading; if not, it takes the one day longer schedule.

Q. As to the traffic originating on the Santa Fe itself, or its short line connections in California, you give it the schedule the next day following the day of loading?

A. Yes, sir.

Q. And has the territory as to which the schedule applies always included all of the Northern California points served by the Santa Fe?

A. No; we had California at one time zoned, Zone 1, Zone 2, and Zone 3, and traffic in Zone 1 got the shorter schedule, Zone 2 one day longer, and Zone 3 two days longer than the shorter schedule.

Q. Was Zone 1 then extended to include all of the territory?

A. Yes; in conferences with our industry and in order to [fol. 1868] to stabilize the market, we agreed to a schedule in June, 1929, of 154 hours for the entire state of California. Several changes have been made since that time.

Q. Was there at one time a basic schedule of 146 hours?

A. Yes. I have that record here; I will give you the correct dates.

Q. Are these all matters within your own personal knowledge?

A. Yes, sir.

Q. In the course of your duties?

A. February 13, 1921, the schedule from Bakersfield to Chicago, agreed schedule with the shipper, was 154 hours. That was the date we established that schedule.

Q. I want to ask you—

A. (Interrupting.) Prior to that the schedule was 180 hours—

Q. Now, I want to ask you, when you say the schedule from Bakersfield, do you know and, if so, will you state whether the schedule offered by your lines from points such as Roseville, Sacramento, San Bernardino and Colton were the same as from Bakersfield?

A. Yes, sir.

[fol. 1869] Q. Was there any provision in 1921 or previously for run-off time?

A. No, sir. In June, 1929, the schedule was reduced from 154 hours to 146 hours with the 16-hour run-off; and on May 24, 1940, the schedule was reduced from 146 hours to the present schedule of 139 hours and 30 minutes with a 16-hour run-off.

Q. When were the Zone 1 extensions made? First of all, before that question is answered, was there any provisions for Zones 1, 2 and 3 in 1921?

A. No. Prior to 1921 is when we had the zones, when we went to the 154-hour schedule, and I think I stated in my opening remarks the one hundred forty-six; it was the 154-hour basic schedule that eliminated the zones in California.

Q. When the 146-hour schedule went into effect—in 1929, was it?

A. 1929.

Q. 1929. Was there any provision then for run off or for zoning of the origin territory?

A. We made the provision then for the 16-hour run-off, and that did away with the zones.

Q. Now, I ask you if these schedules apply over competing lines at various concentration points; and I will ask you [fol. 1870] particularly if you know and, if so, will you state whether they apply over Southern Pacific concentration points?

A. The schedules since 1921, the basic 154-hour schedule, that was uniform from all concentration points. We eliminated on the Santa Fe the zone system before the Southern Pacific Company did, and I don't have the date that the Southern Pacific Company eliminated their zones.

Q. So far as the basic schedules from concentration points are concerned, did the changes you have mentioned as taking place on the Santa Fe take place with reference to the Southern Pacific schedules on the same date?

A. Yes, sir, on the same date.

Q. The same schedules were applied by the Southern Pacific as were applied by the Santa Fe?

A. Yes, sir.

Q. Does the same schedule apply by the Southern Pacific via Salt River Valley, if you know?

A. Yes, sir.

Q. Does the Santa Fe participate jointly with the Southern Pacific applying to traffic originating on the Southern Pacific lines in the Imperial Valley or in the Yuma Valley?

A. Yes, sir.

[fol. 1871] Q. What relation do those schedules bear to the schedules from Salt River Valley points?

A. Traffic originating in the Imperial Valley to Chicago is given sixth day delivery there. I might describe it in this way: Service from the Salt River Valley is fifth day delivery at Chicago; from the Imperial Valley sixth day; and from Colton, San Bernardino, California, concentration points, seventh day; one day difference between each territory.

Q. There is approximately twenty-four hours difference in the schedules?

A. That is true.

Q. Were you present this morning when Mr. Cartmill described the service of inspection and repair performed on Pacific Fruit Express Company cars?

A. I was.

Q. Does the Santa Fe follow a similar or comparable system for the inspection and repair of its refrigerator cars?

A. It does, in this way: Cars that are to be furnished for loading in the Salt River Valley are cut out and inspected and prepared at Winslow, Arizona. Such cars when they arrive at Winslow are given the ordinary inspection, that is, for running gears, safety appliances and exterior inspection. When those cars are placed on the cleaning and repair tracks, they are given both an exterior and interior inspection and, following the same process as described by Mr. Cartmill, these cars are swept or scrubbed; whichever is required to condition the cars for loading. Cars that go on to San Bernardino and Bakersfield to be distributed in California are, on arrival, given the ordinary in-bound inspection by our train yard inspectors; covering the inspection of the running gear, the couplers, the wheels, the exterior, and then the cars are placed on cleaning tracks and are again inspected both as to the exterior and interior. From there the cars are, well, I am getting ahead of my story. We card the cars, then they have been cleaned and made ready for perishable loadings; and then they are taken and distributed to some load-



ing territories, and when the loading is heavy, in Northern California, we do some of that work at Fresno, but it is the same process of inspection.

Q. Do you have shops at any points you have mentioned, or in the territory you have mentioned where the cars may be shopped if they require it?

A. Yes, we have shops at Winslow, San Bernardino, [fol. 1873] Bakersfield, Fresno, and Richmond up in the Bay District that repair our cars. Our situation is not similar as to the repairs, because we do our repairs at all of our repair points or shop points, whereas the heavier repairs are done at a few points, as I understood Mr. Cartmill's testimony, on the Southern Pacific.

Q. Your situation is different again in that your refrigerator cars are of system ownership rather than of car line ownership?

A. That is correct.

Q. When you receive or use cars, refrigerator cars, of other than Santa Fe ownership for your perishable loadings, do they follow the same process?

A. Yes, those cars, when we ask for assistance from some of the other car owners in times of car stress, those cars are inspected at interchange points where we receive them, and if they meet the requirements, we take them out on our line to points sometimes as far as California to load, but the inspection at the interchange junction determines whether or not the car can be made suitable for our loading.

Q. You say that you inspect these cars of other ownership at interchange points. Do you make inspections of [fol. 1874] cars received from connections at interchange points generally whether they be refrigerator cars or not?

A. Oh, yes, that is part of the interchange rules, but what I mean to convey is that we make the exterior and interior inspection of these empty refrigerator cars that we call for.

Q. By referring to the map, Exhibit No. 134, it appears that your line from Northern California running through Bakersfield and your line from Southern California running through San Bernardino meet and join at Barstow, California.

A. That is correct.

Q. Is Barstow a point at which trains are made up for eastward movement over the main line?

A. Yes.

Q. Is that a point at which you make up trains, for example, containing the perishable traffic you have described?

A. That is correct.

Q. That which has been concentrated at Bakersfield or San Bernardino?

A. Yes.

Q. In making up your trains at Barstow, do you observe any limitations as to number of cars?

A. No, we do this: We make up our trains at Barstow, [fol. 1875] we regulate the tonnage in our trains to 2,900 tons, that is, our perishable trains. Other trains handling dead freight, foreign, eastern foreign cars, company fuel oil, dead freight, why, we don't limit those and we handle more than seventy cars and also more than 2,900 tons per train.

[fol. 1876] Mr. Mason: Mr. Mahoney, when those trains reach Needles, California, do you make any adjustment of their lengths?

A. Yes, we adjust the trains at Needles, California, to meet the requirements of the Arizona law.

Q. You operate them eastward from Needles, California, in what lengths?

A. Lengths varying, I would say, from 62 to 65, up to 70 cars.

Q. Not exceeding 70 cars?

A. Not exceeding 70 cars.

Q. Do you observe that maximum length across Arizona and, if so, how far?

A. With our perishable trains we observe that length to Belen, New Mexico. With our trains that do not handle perishable traffic we observe it to Gallup, New Mexico, where in some instances we fill them out with coal or other traffic that may be available there to fill the trains out in excess of 70 cars.

Q. Why do you observe the consist made up at Needles as far as Belen instead of stopping at Gallup to fill out in the case of perishable trains?

A. In the operation of our perishable trains from California [fol. 1877] through, trains departing Barstow, the consist of those trains is telegraphed to our red-ball depart-

ment of our car accountant's office at Topeka, Kansas, in train order. Each car is shown, the origin, the contents, the consignee, the consignor, and destination, and each car is given a symbol number. We move those trains through intact for the reason that that information from that Barstow 23 manifest telegraph report reaching the car accountant's office is disseminated and transmitted to all of our division freight agents and off-line agents and they in turn notify the shipper of the movement of the cars in those trains and they also, after the train leaves Barstow, are given a passing at intervals across to Chicago and with that information the receivers or shippers of those cars can divert those cars to the various destinations that they want to try to dispose of their car.

Q. Is Belen a point at which diversion is undertaken or accomplished?

A. Belen, New Mexico, is one of our main diversion points.

Q. Is that a point at which perishable trains are re-iced and made up?

A. Yes, that is one of our regular icing stations and [fol. 1878] trains arriving Belen are fruit trains. Three trains into Belen generally make two trains out, and trains departing Belen, telegraphic reports again are sent to our car accounting office and all of our general agents, off-line agents, and division freight agents are notified of the trains the traffic is moving in so diversion can be accomplished between there and the Missouri River.

Q. Why wouldn't it be possible or practicable, if that is a more applicable term, to stop these trains at Gallup and do this re-constituting instead of at Belen?

A. We have no icing facilities at Gallup, New Mexico, and we prefer to handle the cars through to Belen where we have the icing plant and too, with the movement of our trains through to Belen we get many diversions that takes the traffic out of the route through the Amarillo gateway, it goes through the Denver gateway or the La Junta gateway and sometimes to El Paso. We also receive diversions at that point that divert the traffic on our rail at Clovis, New Mexico, into the southeastern territory through Houston and Beaumont.

Q. On the Pecos Valley line?

A. Down on that line, yes, sir.

[fol. 1879] The Court: On your westbound traffic where do you make up those trains to correspond with the Arizona law, at Belen or Gallup?

A. At Gallup, because the nature of our westbound traffic is not perishable. We do handle some perishable packing house products.

The Court: You don't have the icing problem on your westbound?

A. No, sir.

Mr. Mason: Is Gallup the point at which trains are cut down to fit the Arizona law requirements?

A. Westbound?

Q. Yes.

A. Yes, sir.

Q. Is there any point, and if so what is the point at which they are reconstituted after leaving Arizona?

A. We do reconstitute a few trains at Needles, but not many. The principal point is Barstow, California, where the trains are reswitched. That is where the northern and southern lines converge and that is where the trains automatically go through a reswitching or reorganization.

The Court: You are speaking now of the westbound traffic?

A. Yes, sir.

[fol. 1880] The Court: In other words the train as it leaves Gallup would run intact, we will say, to Barstow rather than to Needles?

A. Yes, sir. I would say that would be the case 97 to 98 per cent of the time. I might say this for the benefit of the court, that on my way out here I stopped at Gallup and I stopped at Winslow and I made a check during the month of June. We had 54 trains during the month of June that were reduced from six to twenty cars at Gallup. I have the station record with me, just out of curiosity more than anything else that I stopped there for that purpose but I have a list of the trains, the conductor handling the trains in and the conductor out. The smallest number of cars reduced was six and the largest number, twenty, in the 54 trains that were reduced during the month of June.

Mr. Mason: Did you make any study as to the number of trains which were stopped at Gallup and built up to lengths greater than 70 cars eastbound?

A. No, I did not. In our operations eastbound we do handle quite often 3,100 tons from Winslow to Belen and with our trains arriving at Winslow, Arizona, containing 2,900 tons, when they get to Gallup we generally add [fol. 1881] enough cars on those eastbound trains to make a tonnage around 3,100 tons.

Q. You say when they get to Gallup or when they get to Winslow?

A. Gallup. That is the coal and lumber that comes to us from the Apache. We add on those and fill them out to 3,100 tons.

The Court: When you do that do you have to add a helper engine to get over the Continental Divide?

A. No, we don't. That is the capacity of the type of locomotive that they operate there. They can handle that much tonnage. I might say for the benefit of the court that we have in a good many instances double-headed our trains from Winslow to the top of the Divide in order to overcome some delay built up at concentration points waiting for the pre-cooled fruit. We don't do that very often, but if operating interferences are such that we are not able to overcome much of that delay by double-heading up to the top of the Divide we can make up two to three hours in some instances.

Mr. Mason: You spoke of making up your trains into tonnage not exceeding 2,900 at Barstow where perishable was involved?

A. What I meant to convey was that we do not do that [fol. 1882] very often with a train of perishables. We have taken 2,900 tons of perishables, filled it out to 4,000 tons with company fuel oil, say for Needles, and gave them a helper to Goffs and handled the 4,000 tons to Needles and then cut off the fuel oil or dead freight so the train will be 2,900 tons of freight leaving Needles.

Q. Why do you observe a 2,900-ton limitation, if you do observe it, leaving Needles eastward?

A. That is a contractual agreement we have with the conductors and trainmen that 2,900 tons is the maximum tonnage that we will handle between Seligman and Winslow, Arizona, with double-header trains.

Q. Does that 2,900-ton limitation apply to trains handled with a single engine?



A. No, if we had a locomotive of sufficient tractive effort to handle 4,000 tons we could handle it, providing the 4,000 tons could be placed in 70 cars. There is no limitation other than the 70 cars for one locomotive.

Q. But you do have an agreement with the two brotherhoods, the Train Service Brotherhoods that you have mentioned, that you will not handle more than 2,900 tons between Seligman and Winslow with two or more locomotives?

[fol. 1883] A. That is correct.

The Court: What is the reason for that?

A. That, Your Honor, is the outgrowth of an agreement with our conductors—

Mr. Strauss: (Interrupting) If the court please, we are not getting into an opinion of the witness as to his point of view.

The Court: Maybe I shouldn't have asked the question. I will withdraw it if you object. Go ahead, Mr. Mason.

Mr. Strauss: I don't want to prevent the court from having any proper information. There may be two sides to the agreement.

The Witness: I think there are two sides to it, Mr. Strauss, but I think we have the record of the agreements since 1903 when the first double-header agreement was made with our two organizations?

Mr. Strauss: I have no objection to the agreement itself.

The Court: That double-header agreement is by reason of the mountainous territory between Seligman and Winslow?

A. That is correct.

Mr. Mason: This agreement that you refer to, the current 2,900-ton agreement, dates from what year?

[fol. 1884] A. 1924.

Q. And is carried in your working agreements with these two brotherhoods?

A. Yes, sir.

Q. Relating to the trainmen's craft and the conductors' craft?

A. That is correct.

Q. And is not in any state or Federal statute of which you have knowledge?

A. No, sir.

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Q. You were asked by the court whether the agreement was effective in mountainous territory. As I understand it, the agreement applies only to trains which are being handled with two or more locomotives?

A. That is correct.

Q. If a single engine were to handle the train in the same territory, the agreement would not apply?

Mr. Strouss: I think they have a copy of that agreement and if they are going into all the details of it I ask that it be produced.

The Court: Yes, I think it should be produced, but frankly I don't think that is going to be particularly helpful to the court. Maybe it was just curiosity on my part.

[fol. 1885] Mr. Mason: The purpose of bringing this into the record was to show how the agreement may operate either in conjunction or alternatively to the 70-car limitation.

The Court: Well, in this matter we are concerned with the law and not with an agreement.

Mr. Strouss: I am not objecting to the materiality of the agreement. I think it is material, except going into the details of it.

Mr. Mason: I didn't intend to go any further into the details of it on direct examination. Of course the witness in his position, and necessarily because of his position and duties, must be familiar with the effect at least of the agreement upon his operations.

The Court: Yes, but that would not obviate the necessity of producing it if you are going into it.

The Witness: I might say this, Judge—

Mr. Strouss: (Interrupting) I object to the witness volunteering so much, we are getting pretty far afield here. I have a hard enough time keeping track of counsel's questions without watching for voluntary statements by the witness.

Mr. Mason: I call your attention to exhibit No. 138 [fol. 1886] which was introduced when Mr. Weeks was on the stand. Did you select the period of the first ten days of February, 1940, to which this exhibit relates?

A. I did.

Q. Did you instruct Mr. Weeks to prepare or have prepared this exhibit?

A. I did.

Q. Will you state, basing your statement upon your experience and knowledge as the general superintendent of transportation and in your previous employment, whether the month of February and the period from the first to the tenth of February is a peak period or an off-peak period from the standpoint of traffic on the main line of the Santa Fe?

A. It is the lightest period we have. The reason I selected that period is that I did not want to show an abnormal situation. I preferred to show a subnormal rather than an abnormal.

The Court: Then this is not an average period?

A. No, it is the lightest period on our railroad.

Mr. Mason: Is it correct to say that in any other month which might have been selected, whether of 1940 or 1939, the volume of the traffic would have been heavier?

[fol. 1887] A. Yes, the volume handled would be heavier.

Q. Would that result in any longer trains or in the average length of the trains being longer if another period had been selected?

A. In my opinion it would have and that is the reason I selected the period.

Mr. Strouss: My objection is going to all of this.

Mr. Mason: Will you state from your own knowledge whether there is any 2,900-ton agreement similar to the one applying between Seligman and Winslow effective on any part of your lines in the state of New Mexico?

A. No; there is none.

Q. Or on any part of your lines in the state of California.

A. No, sir.

Q. Or elsewhere on your system?

A. There is none other than that one between Winslow and Needles.

Q. Is there any agreement expressing a tonnage limitation upon the trains which you may operate upon any other part of your system than the particular district that you have referred to?

A. None other than the double-header rule that is applicable to the entire contract which provides that double-  
[fol. 1888] header trains will not be run in excess of 40 cars, followed with an exception that trains may be operated

with double-headers providing the tonnage of the heaviest locomotive is not exceeded.

Q. Is that the clause which also provides exception for certain recognized helper districts?

A. Yes, sir.

[fol. 1889] Q. I notice that Exhibit 138, Mr. Mahoney, shows various types of locomotives employed on these trains. What is the wheel arrangement of the Prairie type?

A. That is a 2-6-2.

Q. And the Mikado?

A. 2-8-2. We have some Mikado types with the 2-8-4 and those are equipped with a booster.

Q. You show here Pacific type of 2-8-4. Does that mean that two different locomotives were used on one train?

A. Which item is that?

Q. It is midway ~~on the~~ first sheet between Argentine and Marceline.

A. The 2-8-4 Pacific type?

Q. If I understood you correctly the 2-8-4 is the Mikado type.

A. Those that have the booster on. The Mikado type without the booster is the 2-8-2. This 2-8-4 Pacific type is a passenger locomotive that we used on that train.

Q. You show on sheet 2 a consolidation locomotive. What is the wheel arrangement of the consolidation?

A. 2-8-0.

Q. You show also a Decapod. What is the wheel arrangement of that?

A. 2-10-0.

Q. You show also on sheet No. 2 between Canadian and Waynoka three trains showing Mikados and Santa Fe. Does that mean that those trains were operated, one or more of them, with the Mikado and the other with the Santa Fe?

A. Yes, with the Santa Fe.

Q. Farther down the sheet you show Mikado and Pacific. Would that indicate that different locomotives were used, each of them on part of the district?

A. Yes, sir.

Q. Will you refer to exhibit 139, which was also received when Mr. Weeks was on the stand, and particularly to the first of the three, which indicates operations of passenger

trains between February 2nd and February 8th. Did you select that period for the purpose of this study?

A. Yes, I did.

Q. Did you direct Mr. Weeks to make the study for that period?

A. I did.

Q. Will you state your reasons for selecting February 2nd to 8th inclusive, of the present year?

[fol. 1891] A. My reasons for that are the same as I explained for the freight train showing, that I selected the light period rather than a period of heavy movement of passenger trains. I didn't want to show an abnormal situation.

Q. Would you say that the volume of traffic and consequent volume of cars moved in the first week of February as here indicated is less than the average.

A. Yes, it is.

Q. Would that result in more trains of fourteen cars or less and fewer trains of fifteen cars or more than otherwise?

A. Yes, it would.

The Court: Mr. Mahoney, I notice in the case of the freight trains, that that was given for a ten-day period whereas the passenger you only take a week, the second to the eighth inclusive.

A. That is correct. I selected the freight-train period for a ten-day period and I didn't understand—I didn't intend to put in anything in regard to the passenger train showing, and after I studied the situation over I thought I would make a showing also for the passenger trains, but I selected two periods for the passenger trains.

[fol. 1892] The Court: Which two.

A. February 2nd to 8th and November 17th to 23rd, two seven-day periods during 1940.

Mr. Mason: You are referring now to pages 4, 5, and 6, as relating to the period November 17th to 23rd?

A. That is correct.

The Court: Is that also a subnormal period?

A. Yes, sir, it is.

Mr. Mason: Referring to Exhibit No. 139, Mr. Mahoney, are there any trains on here of the so-called streamliner type Diesel operated?



A. Yes, sir.

Q. Will you indicate them by name?

A. On sheet one, trains identified as No. 17, the Super-Chief, No. 21, the El Capitan, are streamlined trains handled by Diesel power. Train 19, the equipment in that train is light weight with the exception of the baggage and mail car and is drawn by steam power and also Diesel power.

Q. Do the same comments apply to the opposite number eastward, 18, 20 and 22?

A. Yes, sir, they do.

The Court: Those trains do not run daily.

A. The Super-Chief and the El Capitan run twice a week. The Chief runs daily.

[fol. 1893] Mr. Mason: Mr. Mahoney, does the Arizona limitation of fourteen cars per passenger train have any effect upon the consisting or scheduling of your passenger trains or your passenger service?

A. Yes, it has a serious effect.

Q. Will you describe it?

A. In our timetable conferences when there is a change of timetable, the consist and schedules of our trains are predicated upon not exceeding fourteen cars, that is, our trans-continental passenger trains, in order to conform with the Arizona law.

The Court: You mean you make them up that way from Chicago?

A. Yes, sir, we consist the trains so they will not exceed fourteen cars. Now, we do have some trains that the normal consist is fourteen cars, and when we get an extra car in those trains we split the trains either at Albuquerque or Gallup. I have a consist with me here that we split up at Gallup with fifteen cars on the fourth of this month. I happened to be there and we had to split No. 3 on account of having fifteen cars, one extra car in the train. Likewise, our eastbound movement from Los Angeles the consist of our [fol. 1894] trains in setting up our timetables and the consists of the trains, the number of cars is predicated upon staying within the car limit of the Arizona law and it is a serious handicap to us in meeting competitive situations through the Omaha-Council Bluffs-Ogden Gateway where there is no limit to the number of passenger cars that can be handled in a train.

Mr. Mason: Do you compete for the Southern California business with the Union Pacific Northwestern route through Omaha, Salt Lake City and Southern Nevada to Los Angeles?

A: Yes, sir.

Q. Do they operate to your knowledge a train service comparable or competitive with your Super Chief?

A. They do.

Q. Do you know what its name is?

A. City of Los Angeles. They also operate a Challenger that is in direct competition with our Scout service, which trains handle chair car and tourist sleepers and those trains handle an excess of fourteen cars from Chicago through to Los Angeles.

Mr. Strouss: My objection is going to this testimony, Your Honor.

[fol. 1895] The Court: Yes, the record may show your objection and it is overruled.

Mr. Strouss: This is a matter which is capable of proof by evidence rather than a conclusion or argument of the witness.

Mr. Mason: I call the Court's attention to the fact that the movement of trains over the competing route is already in evidence by Exhibit 92.

Q. Have you seen Exhibit No. 92, Mr. Mahoney?

A. No, I have not.

The Court: That is the data put in by the witness for the Union Pacific?

Mr. Mason: That was Mr. Warfel, the witness for the Union Pacific, showing the operation of the trains over his lines handling the traffic between Chicago and Los Angeles.

The Court: The court will be at recess until ten o'clock tomorrow morning.

(Thereupon, the court stood at recess until ten A. M. Wednesday, January 8, 1941.)

[fol. 1896] January 8, 1941, Ten o'clock A. M.

Proceedings were resumed at this time as follows:

The Court: You may proceed.

J. J. MAHONEY was recalled to the stand, and testified further as follows:

Direct examination (Continued).

By Mr. Mason:

Q. Mr. Mahoney, at the conclusion of the proceedings yesterday the testimony had reference to trains operated by the Union Pacific over the route between Chicago and Los Angeles, as compared to those operated by the Santa Fe over its competing route between Chicago and Los Angeles in passenger service. I will ask you if the trains of the Union Pacific over the route in question operate for a part of the distance over the rails of the Santa Fe?

A. Yes, they use Santa Fe rails from Daggett to Riverside, California.

Q. Do you in your position as general superintendent of transportation of the Santa Fe receive any periodical reports of the consists of these Union Pacific passenger trains [fol. 1897] passing over your rails?

A. Yes, our 87 telegraphic report, which report shows all passenger trains and manifest freight trains operated on that railroad, and their status as to the performance, are received daily in my office, which shows the locomotive and the number; number of cars there are in each train handled.

Q. And includes these Union Pacific passenger trains?

A. Yes, includes these Union Pacific passenger trains.

Q. Do you in the course of your duties ever have occasion to visit the Los Angeles Union passenger terminal?

A. Yes, I do.

Q. Do the Santa Fe trains between Chicago and Los Angeles operate into and out of that terminal?

A. Yes, the same union terminal.

Q. Do the Union Pacific trains also operate in and out of that terminal?

A. Yes.

Q. Do you ever observe the Union Pacific trains in that terminal?

A. Yes, quite often.

[fol. 1898] Q. Those that operate on the competing route with the Santa Fe?

A. Yes, sir.

Q. Yesterday you were asked and you explained to some extent the effect of the fourteen-car limitation of the Arizona

law upon your passenger traffic and your passenger train consist between Chicago and Los Angeles. I will ask you whether, in planning your passenger train service between Chicago and Los Angeles, you have to take into account, or do take into account, the fourteen-car limitation?

A. Yes, we do. In setting up the consists of our transcontinental passenger trains, both east- and westbound, we take into consideration the limitations in Arizona, fourteen-car limit.

Q. Is the space available on a passenger train definitely limited as to the number of passengers that may be carried?

A. Yes.

Q. Or, rather, the space on a passenger car, I should say.

A. Yes, there are limitations to the coaches, there is limitation to the chair car, and the Pullman cars according to the type of Pullman car operated in the train.

[fol. 1899] Q. Do your transcontinental passenger trains, some of them, consist entirely or large- of Pullmans?

A. Yes, we have what we call solid Pullman car trains. Then we have the mixed car trains, with the standard Pullmans, the chair cars, and with the tourist Pullmans and chair car.

Q. Your transcontinental trains usually carry dining cars and lounge cars, or either of them?

A. Yes, some carry dining car, lounge car and observation car. Others carry a dining car and a lounge car and no observation car.

Q. Suppose that a passenger train is operated out of Chicago and as far as Gallup or Albuquerque, consisting of more than fourteen cars and containing a dining car, or a lounge car, or an observation car, or all of those cars, what happens when that train reaches Gallup or Albuquerque on its westbound course?

A. We divide the train or split it into two sections. One section carries the dining car and the lounge car, and if the train carries observation, that stays with the Pullman section. We generally split the train on the basis of carrying the chair cars in one section and the Pullman section in the [fol. 1900] other. The chair car passengers from Gallup west to destination in most instances are taken care of at our Harvey eating houses, they are deprived of the dining car privileges from Gallup west.

Q. Why isn't it practicable to provide them with dining car service from Gallup west?

A. That would entail keeping extra dining cars located at Gallup or at Needles, whichever the case may be, to cut into these trains when it was necessary to split the trains in two sections, and that, we feel, is too expensive an operation.

Q. Well, as a practical matter, in planning your transcontinental trains, what course do you take?

A. Well, as I endeavored to make clear, we set the consists up not to exceed fourteen cars in our transcontinental trains both east and west. We do on many occasions handle in excess of fourteen cars, consisting of cars that are destined from Chicago to Denver, Chicago to Kansas City, Chicago to any point that might be north of Gallup, and then when we have cars destined to California, it is necessary to split the train to conform with the law at Gallup, and in some instances we split at Albuquerque.

[fol. 1901] Q. Is your passenger business largely a local business, or a short haul business between Chicago and Kansas City, Denver and intermediate points, or more largely a transcontinental business?

A. Our larger volume of passenger business is on the transcontinental line from Chicago to Los Angeles. The greatest number of passengers handled on our line is between Chicago and Kansas City; the second largest number is from Kansas City to Los Angeles.

Q. Do you ever have special parties operating in special trains, or extra sections of revenue trains?

A. Yes, quite often in the summer months we have special parties, and we operate extra sections of our transcontinental trains.

Q. Do you ever have special parties of such number of persons that they occupy with their baggage and necessary accessories, more than fourteen cars?

A. Yes, we do.

Q. What do you do with those when you reach the Arizona line?

Mr. Strouss: It is understood my objection is going to this.

[fol. 1902] The Court: Yes, the record may show.

A. We split those trains to conform with the law.

Mr. Mason: Does that entail having extra dining cars? What is the result of that?



A. We have on many occasions provided the additional dining car for these special parties, and special trains in order to take care of the split at Gallup, which necessitated handling the second diner all the way through. Other times, dependent on the schedule, whether the train passes through that territory at night, we do split the train and can get by with the one dining car.

Q. Yesterday, in the course of your testimony, Mr. Mahoney, I think you referred to a ten P. M. departure from day of loading of traffic loaded in the Salt River valley. Do you wish to correct that statement?

A. Yes; the latest change on that schedule, the basic schedule is 11:30 P. M. departure, with a privilege permitting the shippers in the Salt River valley to pre-cool their traffic until two A. M. and arrive at Chicago 11:59 of the fourth evening.

Mr. Mason: Then, we will say, for the information of [fol. 1903] Court and counsel that the statement now being corrected appears on page 1863 of yesterday's transcript.

Q. Mr. Mahoney, does the Santa Fe have certain districts on its railroad where two locomotives are used to operate trains, which elsewhere are operated with a single locomotive?

A. Yes.

Q. So-called freight helper districts?

A. Yes, we do have freight helper districts in practically all parts of our railroad.

Q. Where are those freight helper districts?

The Court: You mean in Arizona, Mr. Mason?

Mr. Mason: Not alone in Arizona, but outside of Arizona as well.

A. I checked up last night, and I find that in California we have helper districts between Hector and Ash Hill, east-bound 26 miles; the grade is one per cent; Bagdad to Goffs, east-bound 60 miles, one per cent; Needles to Goffs, west-bound, 31 miles, 1.4 per cent grade; Bagdad to Lavin, west-bound, 31 miles, 1.4 per cent grade. In Arizona—

Q. Those are the helper grades east of Barstow?

A. Yes, sir.

[fol. 1904] Q. Is there a helper district in the Cajon Pass?

A. Yes, sir.

Q. And also over Tehachapi Pass between Bakersfield and Mojave?

A. Yes.

Q. Now, in Arizona.

A. In Arizona, Ashfork to Supai, eastbound, 23 miles, 1.8 grade; no westbound helper district. In New Mexico, Belen to Mountainair, eastbound, 41 miles, 1.25 grade; Belen to Dalies, westbound, 10 miles, 1.25 grade. Between New Mexico and Chicago, eastbound, Canadian to Coburn, Texas, 18 miles of .6 per cent grade; and on the Kansas City Belt Line, one mile of .9 per cent grade; westbound, Chillicothe to Edelstein, Illinois, 8 miles, 1.1 per cent grade; on the Kansas City Belt Line, 4 mile .9 per cent grade; Waynoka to Curtis, Oklahoma, 22 miles, one per cent grade.

Q. Those are on your principal freight lines, are they?

A. This is on the line, our transcontinental freight line; I selected these helper districts.

Q. The so-called Belen cut-off, to which the Court referred?

A. Yes, that is over the Belen Cut-off. Now, in addition to [fol. 1905] that we do have other helper grades on other parts of the System, but I just picked those out on this particular line. Now, these helper districts are separate and distinct from this 2,900-ton agreement, as we call it, with our transportation organizations.

Q. Do you have on the Santa Fe a code or book of rules for the guidance of employees in your transportation department?

A. Yes, we do.

Q. Are you familiar with the standard code of operating rules of the Association of American Railroads?

A. Yes, I have read that several times.

Q. Does the Santa Fe rule book resemble the standard code of rules of the A. A. R.?

A. It follows the standard code very closely. There are a few exceptions to conform to local conditions on our line that differ from the standard code.

[fol. 1906] Mr. Mason: Mr. Mahoney, you spoke of operating some of your trains with Pullman cars. Are those the standard conventional type of Pullman cars that one sees in ordinary passenger trains?

A. Yes, we operate trains with what we call the conventional Pullman type and also the streamline type.

Q. Do you have some lightweight Pullman equipment as well?

A. Yes, sir.

Q. Of recent construction?

A. Yes.

Q. Does the Santa Fe run through any territory between Chicago and Los Angeles where relatively severe winter temperatures are encountered?

A. Yes, we do. We encounter severe cold weather in the winter months from Chicago, you might say, to Needles. At times the weather is quite severe. We encounter the most severe weather I think in Colorado and parts of New Mexico and some in Arizona.

Q. Do you on parts of that line other than in Arizona operate passenger trains of more than 14 cars during the winter months?

A. Yes, we do.

Q. Will you say whether or not you have imposed any [fol. 1907] limitation upon the lengths of your passenger trains during the winter months because of failure to heat or difficulty in heating the rear cars of such passenger trains?

A. Yes, we have. Our maximum consist in severe cold weather would be about 16 to 17 cars. Beyond that we would split the train.

Q. What do you mean by "severe cold weather"?

A. Five to ten below zero.

Q. Have you ever found it necessary to reduce to 14 cars or less because of five or ten degrees below zero?

A. No, we feel we can heat that number of cars satisfactorily.

Q. Do you run your locomotives in freight service over more than one freight district?

A. Yes, we do.

Q. Will you state the length of some of your typical locomotive runs in freight service on your main line through trains?

A. We operate our freight locomotives from Marceline, Missouri, to Kansas City, and we have in some instances freight locomotives from Chicago to Kansas City. The reason that we do not do that more than we do is on account of the locomotives on the Illinois division being [fol. 1908] equipped with automatic train control and we keep those locomotives pretty well allocated on the Illinois

division. From Kansas City west we operate freight locomotives to Arkansas City and Wellington, Kansas, and Newton, Kansas. We operate locomotives from Wellington, Kansas, to Clovis, New Mexico; from Clovis, New Mexico, to Belen and from Belen to Winslow. We have operated freight locomotives through from Winslow to Barstow and in some instances they are changed at Seligman. If they are changed at Seligman, they generally run through to Barstow. The running through of freight locomotives depends generally on the conditions of the locomotives. If the locomotive is functioning properly, we take advantage and operate through several terminals. If not, they are alternated with engines that are held at those terminals.

Q. Mr. Mahoney, generally speaking and apart from any restriction such as the 70-car limit, what considerations in your experience on the Santa Fe govern the lengths of the freight trains that you operate?

A. The traffic that is available at the terminal at the time the train is run and the capacity of the locomotive that is going to handle the train govern the tonnage and [fol. 1909] cars to be handled. There are times that we do give consideration to whether or not the train is on schedule, how much late the train is, and in some instances we have to adjust the tonnage to conform with the schedule we are going to make.

Mr. Mason: I think that is all, Mr. Mahoney, thank you. Cross-examine.

Mr. Strouss: I would like to reserve my cross-examination until after lunch, if I may?

The Court: All right. Call the next witness.

L. J. MASSON was recalled as a witness in behalf of the defendant and having been previously sworn testified further as follows:

Direct examination (Continued).

By Mr. Mason:

Mr. Mason: Your Honor will recall that prior to the recess on December 14 Mr. Masson had been qualified and I think had introduced one exhibit, No. 115.

The Court: Yes, he is the assistant general auditor of the Southern Pacific Company with headquarters at San Francisco.

Mr. Mason: That is correct.

[fol. 1910] Q. Mr. Masson, I will ask you if you will refer, please, to a statement in one sheet bearing title, "Southern Pacific Company-Pacific Lines, Freight Revenues within the State of Arizona, Years 1912 to 1939, Inclusive." Have you that statement before you?

A. Yes, sir.

Mr. Mason: May we have the statement just referred to marked "Defendant's Exhibit No. 141" for identification?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 141 for identification.

Mr. Mason: Did you prepare or cause to be prepared exhibit No. 141?

A. I caused this to be prepared, it was prepared under my supervision and direction.

Q. Is the source as shown at the foot of the exhibit itself?

A. Yes.

Q. Is the exhibit entirely taken from the figures appearing in the annual reports to the Corporation Commission of the state of Arizona?

A. Yes.

Q. Are the reports to the Corporation Commission from [fol. 1911] which this is taken available in the city?

A. The reports to the Corporation Commission for the years 1922 to 1939 are in the courtroom. If counsel desires the reports from 1912 to 1921, they will be made available to him.

Mr. Strouss: I don't desire them. You have your reports from 1922 to 1939?

A. 1922 to 1939 here.

Mr. Strouss: The earlier ones I will not ask for.

Mr. Mason: Is the computation appearing in column 5 your own computation?

A. Yes, sir, that shows the percentage that column 3 is of column 4, indicating the predominance of revenues from interstate freight within the state of Arizona.

Q. Is column 2 the figure reported to the state commission for revenue upon wholly intrastate freight?



A. Yes, that is the revenue that accrues from freight picked up and laid down at points within the state without passing out of the state at any point.

Q. I will ask you to refer to column 3 and to note (B). Is the state proportion of revenue on interstate traffic as [fol. 1912] signed to the State in accordance with your own formula?

A. No, according to formula prescribed by the Corporation Commission of Arizona.

Q. Is the formula substantially as indicated by your note (B) based on the mileage pro rate of the total distance the freight may be carried?

A. Yes, sir.

Q. Have the computations of the other figures on the exhibit been checked against the original sources?

A. The figures on the exhibit have been checked against the original sources.

Q. Will you say whether or not the showing is a true and correct representation of the figures appearing in the original sources?

A. Yes, sir.

Q. And are the computations and percentages correct?

A. Yes, sir.

Mr. Mason: We offer the statement in evidence as defendant's exhibit No. 141 subject to any questions of opposing counsel.

Mr. Strouss: Column 3, interstate, you mean by that that is the portion of the interstate allocated to Arizona?

A. Yes, sir.

[fol. 1913] Mr. Strouss: Under the formula of the Arizona Corporation Commission?

A. Under the formula prescribed by the Arizona commission, dated September 23, 1914.

Mr. Strouss: That is the formula which was adopted by the Association of Commissions, wasn't it?

A. No, it is a little different to the formula prescribed by the Association of Railway Commissioners. That prescribes a different formula for allocations to states. This prescribes a special formula.

Mr. Strouss: We object to this as immaterial and irrelevant.

The Court: Objection overruled. It may be admitted in evidence.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 141.")

The Court: Do I understand with reference to this exhibit, Mr. Mason, column 3, that in accordance with the rules of the Arizona Corporation Commission any freight of any class originating within the state of Arizona that was hauled by your lines across the state line either way would be classed as "interstate"?

A. Yes, sir, interstate freight represents freight that [fol. 1914] originates outside the state and moves to a point in the state or that may originate at a point in the state and moves outside the state.

The Court: In other words, column 2 represents that percentage of your business which is wholly within the state of Arizona?

A. That is true.

The Court: The shipment originates in and stops in the state?

A. Terminates in the state, yes, sir.

Mr. Strouss: What is that formula of the Corporation Commission? I think the court should understand that.

Mr. Mason: I intend to develop it further by a concrete example.

Mr. Strouss: There is one question I should have asked there. The percentage of interstate total—just so I understand this exhibit—is that the ratio of the two columns 2 and 3?

A. No, that is the ratio of column 3 to column 4.

Mr. Mason: To state a concrete example of allocation of revenue, if a shipment moves from Phoenix to Tucson, originating on the Southern Pacific at Phoenix and delivered [fol. 1915] by the Southern Pacific at Tucson, in what column of exhibit No. 141 will the revenue be placed?

A. In column 2.

Q. Suppose that a shipment originates at Colton, California, and moves to Tucson and is there delivered, in what column will the revenue received by the Southern Pacific Company for carrying that shipment be placed and how much of the revenue will be placed in that column?

A. The mileage proportion or the relative percentage that the mileage in Arizona bears to the total mileage

from Colton to Tucson. It would be put in column 3. To make it simple, let's assume that a shipment moves 100 miles, 50 miles of it moves in Arizona and 50 miles outside of Arizona. Fifty per cent of the revenue would be allocated to Arizona.

Q. Suppose a shipment which originates at Los Angeles and moves to El Paso, Texas, all of the haul being Southern Pacific; will any of the revenue received from the transportation of that shipment appear in column 3; and, if so, how much?

A. The mileage proportion through the state.

Q. From border to border?

A. From border to border.

Q. Of the total?

[fol. 1916] A. Of the total revenue.

Q. Will the same process be followed if the shipment originates at a point in Mexico, moving through the Nogales gateway and is delivered at a point outside of Arizona?

A. Yes, sir.

Q. Or delivered at a point inside of Arizona?

A. Yes.

Q. So in the interstate column appears the revenue apportioned to the mileage in Arizona on the pro rate basis from traffic moving across the state or from outside the state to a point within or from within the state to a point outside?

A. Correct. Let me go a little further. You confined your example to shipments originating on the Southern Pacific.

Q. I did, for simplicity, but what happens as to interline shipments?

A. The same process. In other words, if the shipment originates on the Santa Fe in Arizona, comes to us and is delivered at a point in Arizona, Tucson we will say, that is an intra-state shipment. It is an interline intra-state shipment. If it originates, we will say, in the East, on a foreign line, moves through Arizona, Arizona would get its mileage proportion of the revenue allocated or [fol. 1917] apportioned to the Southern Pacific of that shipment.

The Court: Would that be shown in column 2?

A. That would be shown in column 3, that is an interstate shipment.

Mr. Mason: Referring to your shipment originating on the Santa Fe and moving to a Southern Pacific point. Let's suppose the shipment originated at Flagstaff and moving via Phoenix to Tucson. The revenue from that shipment divides at Phoenix, part to the Santa Fe and part to the Southern Pacific?

A. Yes.

Q. How much of that revenue will appear in this statement and in what column?

A. The total Southern Pacific revenue will appear in column 2.

Q. But only the Southern Pacific proportion?

A. We are only dealing here with Southern Pacific revenue.

Q. Suppose a shipment originates on the Rock Island at Kansas City and moves via Tucumcari and El Paso and is delivered at Tucson, how much of that revenue in proportion will appear in exhibit No. 141 and in what column?

A. The revenue accruing to the Southern Pacific from [for 1918] Tucumcari to Tucson would be split and a mileage pro rate of that revenue would be allocated to Arizona and put in column 3.

Mr. Mason: Does that make it clear, Your Honor?

The Court: I think so.

Mr. Mason: Have you any other questions before we pass on to something else?

The Witness: For instance, a rate on a shipment that applies, we will say, from Chicago moving over the Rock Island, Tucumcari, Southern Pacific, divides on an established agreed percentage basis between the Rock Island and the Southern Pacific first.

The Court: I understand that but all of the revenue so far as the Southern Pacific is concerned and so far as this exhibit is concerned on such a shipment would be shown in column 3?

A. No, sir, only the Arizona mileage proportion would be allocated. That shipment moves through Arizona, New Mexico, and Texas and those states will get their cut out of it. It will be prorated between the respective states on a mileage basis in proportion to the mileage hauled in the respective states and Arizona would get its cut out

[fol. 1919] of that revenue and it would be put and is put in column 3.

Mr. Mason: Perhaps a concrete example would help. Suppose a shipment originates on the Texas and Pacific in Texas and moves a total haul of a thousand miles to a destination in Arizona of which one hundred miles are in Arizona and the total Southern Pacific haul is five hundred miles and the division between the Texas and Pacific and Southern Pacific is on a straight 50 per cent basis. How much of that revenue would be apportioned to the Southern Pacific in the first place?

A. 50 per cent of it.

Q. How much of that revenue accruing to the Southern Pacific would be apportioned to the one-hundred-mile haul in Arizona?

A. One-fifth of it.

Q. Or one-tenth of the total revenue for the interline haul?

A. That is right.

Q. That one-tenth would appear where?

A. In column 3.

Mr. Strouss: That has been the formula in use since 1914?

A. Yes, sir.

Mr. Strouss: Of course that applies to freight movement [fol. 1920] out of the state as well as to those into it and going through it?

A. Yes, sir.

Mr. Strouss: In other words, shipments of ore out of Bisbee or Douglas, for example, the revenue from them would be interstate if it were going to El Paso or beyond?

A. That is true.

Mr. Strouss: And the amount of that revenue allocated to Arizona would be the ratio of the mileage in Arizona to the total mileage?

A. That is true.

Mr. Mason: Mr. Masson, while the formula became effective in 1915, have the accounts for the years preceding been stated in the same way?



A. Yes.

Mr. Strouss: You mean in the exhibit?

A. Yes.

Mr. Strouss: I wasn't asking that question for that purpose.

Mr. Mason: I don't think it makes any particular difference because after all whether the percentage is 95 or 94, it is still very substantial.

Mr. Strouss: I wasn't questioning him on that basis.

Mr. Mason: Mr. Masson, have you before you a statement in one sheet bearing title, "Southern Pacific Company-Pa-[fol. 1921] cific Lines, Freight Revenues as Allocated to the State of Arizona in Accordance with Formulae Prescribed by Arizona Corporation Commission, September 23, 1914, Segregated between Specified Classes of Traffic, Calendar Years 1920 to 1939, Inclusive"?

A. Yes, sir.

Mr. Mason: May we have the statement marked as "Defendant's Exhibit No. 142" for identification?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 142 for identification.

Mr. Mason: Did you prepare or cause to be prepared this exhibit, Mr. Masson?

A. This exhibit was prepared under my supervision and at my direction.

Q. From what particular sources was it prepared?

A. It was prepared from the accounting records of the company. I want to point out that column 2 are the same figures as appear in column 2 of exhibit No. 141, which in turn appear in the annual report to the Corporation Commission of Arizona.

[fol. 1922] Q. And the figures in column 10, where do they appear?

A. They appear in column 4 of exhibit No. 141. I have taken the basic records in our office and broken down the interstate revenue to show the amount of revenue that is derived from and allocated to the state of Arizona, first from traffic originating without and ending within the state as shown in column 4. Next, the revenue from freight traffic originating within and ending without the state as shown in column 6. Next, the revenue from freight passing

through the state is shown in column 8. As I said, this segregation was the result from the basic records which are quite voluminous in our office and the columns 3, 5, 7, and 9 are computations that we made.

Q. From the figures on the face of the exhibit?

A. From the figures on the face of the exhibit.

Q. The percentage computations in column 3, I take it, correspond to and are the differences respectively between one hundred and the other figures appearing in column 5 of exhibit No. 141 for the corresponding years?

A. Yes, taking 6.90 per cent shown in column 3 for the year 1939 on exhibit No. 142 and adding it to the percentage of 93.10 shown in column 5 for the year 1939 on exhibit [fol. 1923] No. 141 comes to one hundred per cent.

Q. The same is true as to each of the other years down to 1930?

A. That is true. In other words, the 93.10 per cent has been broken down to show what is in and out and through the state.

Mr. Mason: Have you any questions, Mr. Strouss?

Mr. Strouss: No, I have no questions.

Mr. Mason: We offer the exhibit in evidence as defendant's exhibit No. 142.

Mr. Strouss: We object to it as irrelevant and immaterial.

The Court: Objection overruled, it may be admitted in evidence.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 142.")

Mr. Mason: I don't know that we developed from the witness that it was true and correct.

A. It is to the best of my knowledge and belief.

Q. And the computations have been checked, have they?

A. They have.

Q. As I understand exhibit No. 142, Mr. Mason, it simply carries further the breakdown into interstate and intra- [fol. 1924] state traffic and for the ten-year period only the showing made by exhibit No. 141?

A. That is true.

Q. Is this showing in column 8 and percentage reference in column 9; is that character of traffic sometimes referred to as "bridge" or "overhead" traffic?

A. Yes, in that instance Arizona would be known as a bridge state.

Q. Take an example of traffic originating at Los Angeles and moving to El Paso. Where would the Arizona proportion of the revenue received for the character of that shipment appear upon exhibit No. 142?

A. That would be in column 8.

Q. If the shipment originated in Tucson and moved to El Paso, where would the Arizona proportion of the revenue appear?

A. That would be in column 6, originating in and ending without.

Q. These shipments which originate at Los Angeles and move on the Overnight to Phoenix and Tucson and are delivered there, where does the revenue from them appear?

A. That would be in column 4.

[Vol. 1925] Mr. Mason: Have you any questions before we leave the exhibit, Mr. Strouss?

Mr. Strouss: No.

Mr. Mason: Mr. Masson, have you before you a statement in one sheet bearing the title, "Southern Pacific Company-Pacific Lines, Revenue Ton-Miles of Freight Carried in the State of Arizona, Calendar Years 1925 to 1939"?

A. Yes.

Mr. Mason: May we have the statement marked as "Defendant's Exhibit No. 143" for identification?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 143 for identification.

Mr. Mason: Did you prepare exhibit No. 143 or cause it to be prepared?

A. I caused this exhibit to be prepared and it was prepared under my direction.

Q. From what sources was the exhibit prepared?

A. That was prepared from the basic records in our office.

Q. You say in the source note on the exhibit that it agrees with certain other statistics. Will you explain how it agrees or corresponds to such statistics?

[Vol. 1926] A. The total shown in column 6 agrees with the corresponding figure that is shown in Schedule 931 of the annual report made by the company to the Corporation Commission of Arizona, 1939, for instance—

Q. Do you have the report to the Arizona Corporation Commission before you now?

A. Yes.

Q. And are referring to the 1939 figures in Schedule 931?

A. Yes, 1939 figures in Schedule 931. Line 73 shows the same figure as is shown in column 6 of Exhibit No. 143.

[fol. 1927] Q. For the year 1939?

A. For the year 1939. That figure was broken down from our basic records between intrastate and interstate.

Q. Now, the definition of intrastate is, as to the units shown here, the same as stated by you previously?

A. Yes, sir.

Q. And likewise the definition of "interstate"?

A. Yes.

Q. I notice that here you make the segregation of revenue ton-miles using as the unit the revenue ton-mile. Will you explain the use of that unit?

A. Well, a ton-mile is the transportation performed. In other words, the tonnage moved, and the distance that it moves is known by the technical term "ton-mile," one ton of two thousand pounds moved one mile is a ton-mile.

Q. Is that the measure of the freight transportation performed upon revenue freight?

A. Yes.

Q. And that is the measuring unit used by the commission, state commissions as well as by the Interstate Commerce Commission?

A. Yes.

Q. And by the carriers, of course, in rendering their report, at least?

A. That is a unit of measure that is generally used by all transportation agencies, rail transportation agencies, I should say, all railroads as well as by all regulatory bodies.

Q. Has the exhibit been compared with the original sources to determine its correctness?

A. Yes, sir.

Q. And the computations, the results of which appear in columns 3 and 5, just how were they made?

A. They were made and they were checked and are correct.

Q. Now, your note says "Interstate ton-miles assigned to state on basis of distance carried within or through the state." Does that involve the use of any formula?

A. What did you say?

Q. The Note A at the foot of the sheet says, "Interstate ton-miles assigned to state on basis of distance carried within or through the state."

A. Well, that is the same formula that I referred to, the revenue-mile.

Q. This is the case of actual performance, actual carriage?

[fol. 1929] A. Yes.

Q. There is no formula involved, is there?

A. None other than that which applies to revenue. In other words, the ton-miles assigned to the state are in ratio of the total miles in the state, moved in the state times the tonnage, to the total tonnage and total mileage.

Q. It is necessarily so, from the definition of the term "ton-miles?"

A. That is so.

Q. Is the segregation of the revenue ton-miles of freight as between interstate and intrastate a record currently maintained, or is it the result of a special study of the underlying records for the purposes of this case?

A. We don't maintain a segregation of ton-miles by states; it was made for—except as to Nevada; Nevada is the only state that requires it. We do that currently. The segregation here made was the result of the special study.

Q. Of the primary records?

A. Yes.

The Court: In other words, the Arizona Corporation Commission doesn't require such a report?

A. It doesn't require that report.

[fol. 1930] Mr. Mason: Have you any questions, Mr. Strouss?

Mr. Strouss: No. I think inadvertently Mr. Masson's definition of revenue ton-miles, he stated a ton—freight moving one mile. I think he meant revenue freight.

The Witness: Yes, we were speaking of revenue freight; otherwise, it would be revenue and non-revenue. But a ton-mile is 2,000 pounds of freight moved a mile.

Q. It wouldn't include company freight?

A. No, this doesn't include company freight.

Mr. Mason: We offer the exhibit in evidence as defendant's Exhibit No. 143.



Mr. Strouss: Objected to as irrelevant and immaterial.

The Court: The objection is overruled. It may be admitted in evidence.

(The document referred to was received in evidence and marked, "Defendant's Exhibit No. 143.")

The Court: We will take our morning recess at this time.

(Thereupon a short recess was taken, after which Mr. Masson was recalled to the stand and proceedings were resumed as follows:)

[fol. 1931] Mr. Mason: Mr. Masson, have you before you a statement in one sheet bearing the title, "Analysis of Interstate and Intrastate Revenue Freight Tons carried One Mile in State of Arizona, Calendar Years 1925, 1929, 1938 and 1939?"

A. Yes, sir.

Mr. Mason: May we have the statement marked "Defendant's 144 for identification?"

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 144 for identification.

Mr. Mason: Did you prepare this exhibit, Mr. Masson, or have it prepared?

A. That statement was prepared under my supervision and direction.

Q. Was this statement especially prepared from the underlying records for the purposes of this case?

A. This was a special study from the underlying records in our office for the purposes of this exhibit.

Q. Do any of the figures appearing on the exhibit correspond with figures appearing in reports to the Arizona Corporation Commission?

A. Yes; as stated in the footnote there, the grand total shown in column 8 agrees with the totals shown in Column [fol. 1932] 6 of exhibit No. 143. This exhibit breaks down the ton-miles, or, in other words, the transportation service to correspond with the breakdown that is shown in exhibit 142. 142 covers the breakdown of the revenue and this shows the breakdown of the ton-miles between various sources as indicated in Column 1. You will note that Item

D, freight originating and terminating within the state, intrastate freight, intrastate ton-miles I should say, agrees

with the corresponding figures for the respective years shown in Column 2 of exhibit 143.

The Court: I notice, Mr. Masson, in all of these other exhibits that have been introduced here this morning while you have been on the stand, that they either cover a ten-year period or a period from 1912 to 1939, whereas Exhibit 144 merely takes four years, 1925, 1929, 1938 and 1939. Why was that done?

A. Simply—this exhibit is intended and was constructed simply as an illustration of the transportation service in and out and through the state.

Q. Any particular reasons for taking those four years? [fol. 1933] A. No, there wasn't any particular reason. I assumed that it would serve the purpose of an illustration, and I had no reason to believe that any of the other years would produce any different figures.

Mr. Mason: That is, anything differing very widely from what appears here?

A. From what appears in here.

Q. Referring to exhibit 143, the segregation of the total interstate and intrastate, do you find any such substantial variations in the proportions during the years 1925 to 1939 which would indicate any substantial variations as between classes A, B and C on exhibit 144 for identification?

A. No; that is what caused me to simply use this as an illustration.

Q. Was this a special study requiring special references to the basic records?

A. Yes.

Q. Is it a considerable labor to segregate these figures for each year?

A. Yes, it is.

Q. Is that another reason for having confined it to the four years shown?

A. It is, yes.

[fol. 1934] Q. These figures in percentage of totals in the line bearing the designation "total interstate" for these years are the same as those which appear in Exhibit 143 in columns 4 and 5?

A. Yes.

Q. This is simply a further breakdown for these four years of the figures which appear in Exhibit 143, are they not?

A. That is true, that is the fact.

Mr. Mason: Have you any questions on the exhibit, Mr. Strauss?

Mr. Strauss: No questions.

Mr. Mason: Has the exhibit been checked against the underlying records, Mr. Masson?

A. Yes.

Q. And have the computations been checked?

A. They have.

Q. Will you say whether or not the exhibit is true and correct?

A. It is true and correct, to the best of my knowledge and belief.

Mr. Mason: We offer the statement in evidence as Defendant's Exhibit in evidence No. 144.

Mr. Strauss: Objected to as irrelevant and immaterial.

The Court: Mr. Strauss, I understood you to say earlier [fol. 1935] in the trial that the defendant company has been cooperative and made available all of their records for you, so you are not objecting on the ground that the original source records are not here?

Mr. Strauss: No, I am objecting only on the ground that it is immaterial and irrelevant.

The Court: The objection is overruled. It may be admitted.

(The document referred to was received in evidence, and marked "Defendant's Exhibit No. 144.")

Mr. Mason: Have you before you, Mr. Masson, a statement in one sheet relating to Southern Pacific Company, Pacific Lines, and bearing the title, "Tons of Revenue Freight Carried One Mile Through, And/Or, To and From Points Within, State of Arizona, Segregated Between Traffic To and From Mexico and Traffic To and From All Other Points Beyond the State?"

A. Yes, sir.

Mr. Mason: May we have the statement marked as defendant's Exhibit 145 for identification?

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 145 for identification.

[fol. 1936] Mr. Mason: Did you prepare this exhibit or cause it to be prepared, Mr. Masson?

A. I caused this exhibit to be prepared; it was prepared under my supervision and direction.

Q. Is this likewise based upon original records of the company?

A. Yes, our basic records were used in preparing this, and here, again, we used only one year.

Q. Was this a special study for the purposes of this case?

A. It was.

Q. Requiring considerable labor?

A. Yes.

Q. As I understand it, the exhibit is for the purpose of showing the percentage of the international traffic from and to Mexico handled through Arizona for the year?

A. That is the primary purpose of the exhibit.

Q. Then this is a further breakdown of the 1939 figures appearing in the preceding exhibits?

A. Yes.

Q. Did you make these computations or percentage figures in column 3?

A. The computations were made at my direction.

[fol. 1937] Q. Have they been checked?

A. Yes, and I am satisfied they are correct.

Mr. Mason: Have you any questions, Mr. Strouss?

Mr. Strouss: As I understand it, this exhibit now, the items under "A" represent the traffic which passes through Arizona going either from Mexico to some points beyond Arizona or coming from points beyond Arizona into Mexico, but neither originating nor terminating in Arizona.

A. That is true, that is Item 1.

Mr. Mason: I think that that is not quite clear.

The Witness: Item 1 represents freight that originated or terminated in Mexico, passing through the state of Arizona to and from a point beyond Arizona. Item 2 represents all other traffic passing through Arizona.

Mr. Mason: Now, do I understand

The Witness (Interrupting): Do you understand that now?

Mr. Strouss: Yes.

The Witness: Item B. is the traffic to and from points in Arizona to Mexico, and vice versa.

Mr. Mason: Now, the first two entries, then, numbers 1 [fol. 1938] and 2, is traffic, either Mexican traffic or domestic United States traffic, as to which Arizona is a bridge?

A. Yes.

Q. And Items 3 and 4, and B is domestic traffic, or traffic from or to Mexico, moving to or from points in Arizona?

A. Yes.

Q. But all interstate?

A. It is all interstate traffic.

Q. This contains no showing of any intrastate Arizona traffic?

A. No.

Mr. Mason: Any other questions, Mr. Strouss?

Mr. Strouss: No other questions.

Mr. Mason: We offer the exhibit in evidence as defendant's Exhibit 145.

Mr. Strouss: Objected to as irrelevant and immaterial.

The Court: The objection is overruled. It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 145.")

Mr. Mason: Will you now refer, Mr. Masson, to a statement in one sheet entitled, "Southern Pacific Company, [fol. 1939] Pacific Lines. Passenger Revenues Within the State of Arizona, Years 1912 to 1939 Inclusive."

A. Yes, I have it before me.

Mr. Mason: May this be marked, if the Court please, No. 146 for identification?

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 146 for identification.

Mr. Mason: Did you prepare No. 146, or cause it to be prepared, Mr. Masson?

A. I caused that exhibit to be prepared, and it was prepared under my supervision and direction.



Q. And prepared from the counterpart copies of the annual reports to the Corporation Commission of Arizona?

A. Yes.

Q. The Schedule 710 as shown?

A. Yes, or corresponding schedule.

Q. Does this exhibit bear any resemblance to Exhibit 141?

A. Yes; that is a breakdown of the passenger revenues as between intrastate and interstate in a manner and according to formula similar to that which applies to freight revenues as shown in Exhibit 141.

[fol. 1940]. Q. Is the exhibit prepared exactly the same way?

A. Yes.

Q. And the allocation or prorating of interstate passenger revenue to the State of Arizona is accomplished according to formula along the same lines for the assignment or allocation of freight revenue?

A. Yes.

Q. The computations in column 5, I take it, are your computations?

A. Yes, computed for the purpose of this exhibit.

Q. And express the relationship of what other figures on the exhibit?

A. Express the relationship of column 3 and column 4, indicating the predominance of revenue from interstate business within Arizona.

Mr. Mason: Have you any questions on the exhibit, Mr. Strouss?

Mr. Strouss: No, I just have one.

Q. These exhibits include branch line operations as well as main line?

A. Yes, the total revenues.

Mr. Mason: Has the exhibit been compared and checked? [fol. 1941] A. Yes, sir.

Q. Will you say whether it is true and correct?

A. To the best of my knowledge and belief, it is.

Mr. Mason: We offer the exhibit in evidence as defendant's Exhibit No. 146.

Mr. Strouss: Objected to as irrelevant and immaterial.

The Court: The objection is overruled. It may be admitted.

(The document referred to was received in evidence, and marked "Defendant's Exhibit No. 146.")

Mr. Mason: Will you refer, please, Mr. Masson, to a statement in one sheet entitled, "Southern Pacific Company, Pacific Lines, Revenue Passengers carried One Mile in the State of Arizona, Years 1925 to 1939, Inclusive?"

A. Yes, sir.

Mr. Mason: May we have the statement marked "Defendant's No. 147 for identification," Your Honor?

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 147 for identification.

[fol. 1942] Mr. Mason: Did you cause this exhibit to be prepared, Mr. Masson?

A. Yes, sir.

Q. Was this prepared as a special study from basic records of the company?

A. Yes, sir.

Q. Here you have a showing of revenue passengers carried one mile. Is that usually so-called "revenue passenger-miles?"

A. That is what it is.

Q. What is the revenue passenger-mile; is that a unit of measurement?

A. A passenger-mile is the measuring unit applied with respect to passenger statistics and represents—it is made up, or, I should say, it is one passenger traveling one mile, which is known by the technical term of the "passenger-mile."

Q. These figures in columns 2, 4 and 6 are passenger-miles?

A. Are passenger-miles. Column 6 ties into the annual report to the Commission, the Corporation Commission of Arizona.

Q. Does this exhibit resemble Exhibit 143 relating to the showing of revenue freight ton-miles?

[fol. 1943] A. Yes, to the extent that it segregates

The Court: Comparing the two exhibits, Mr. Masson, I notice that on percentage bases, that the intrastate passenger business is considerably smaller than the intrastate freight business?

A. That is true, Sir. You will notice the falling off in the more recent years, which is due to the loss of passenger business.

Mr. Mason: I will ask you if the exhibit has been compared and the computations checked?

A. Yes.

Q. Is it a true and correct reflection of the underlying sources, the records to which you have referred?

A. To the best of my knowledge and belief, it is.

Mr. Mason: Have you any questions on the exhibit, Mr. Strouss?

Mr. Strouss: No questions.

Mr. Mason: We offer the exhibit as defendant's No. 147.

Mr. Strouss: Objected to as irrelevant and immaterial.

The Court: The objection is overruled. It may be admitted.

(The document referred to was received in evidence, and [fol. 1944] marked "Defendant's Exhibit No. 147.")

Mr. Mason: Attention has been called, Mr. Masson, to the decline in the intrastate proportion of the revenue passenger business expressed in revenue passenger-miles, as indicated on the face of the exhibit. Is that due to the disappearance or partial disappearance of local passenger traffic, short haul passenger traffic?

A. Yes. Now, when I say that these figures, revenue figures especially, tie into the annual reports, I want to point out that for the purposes of this exhibit the revenue is rounded out in dollars. Of recent years reports have been rendered to the Commission in round dollars; in other words, cents were omitted. In prior years, why, we reported dollars and cents, so to that extent there will be that small difference.

Q. That comment would not apply to Exhibit 147, would it?

A. No, no; there is no money; wherever money is shown, it was rounded out.

Mr. Mason: Have you any questions on the exhibit, Mr. Strouss?

Mr. Strouss: This is 147?

[fol. 1945] Mr. Mason: 147, yes. It has been received.

Mr. Strouss: No, I have no questions on it.

Mr. Mason: Have you before you, Mr. Masson, a statement in one sheet bearing the title, "Analysis of Interstate and Intrastate Revenue Passengers Carried One Mile In State of Arizona, Calendar Years 1925, 1929, 1938, and 1939"?

A. Yes.

Q. Did you cause this exhibit to be prepared?

A. I did.

Q. From basic records in the accounting department of the company?

A. Yes.

Q. Was this a special study for the purposes of this case, similar to Exhibit No. 144, in which you analyzed the revenue freight ton-miles?

A. Yes; and again we used only four years.

The Court: And the same four?

A. And the same four, which is simply for the purpose of illustrating the source of the business.

Mr. Mason: Here you have broken down, I take it, the figures appearing on No. 147, so as to show the interstate movement into the state, out of the state, and across the state.

A. Yes; 147 is revenue.

[fol. 1946]. Q. Is 147 revenue?

A. No, no. That is right. Yes, you will notice that the grand total here, column 8, for the year 1939, ties into the figure shown in column 6 for 1939.

Q. On Exhibit 147?

A. On 147.

Q. Is the same true as to the figures for 1925, 1929, and 1938?

A. Yes.

Q. Have the computations been checked and the exhibits otherwise compared to determine its correctness?

A. Yes, it has been checked, and it is correct to the best of my knowledge and belief.

Mr. Mason: Have you any questions, Mr. Strouss?

Mr. Strouss: No, I have no questions.

Mr. Mason: We offer the statement as defendant's Exhibit No. 148.

Mr. Strouss: Objected to as irrelevant and immaterial.

The Court: The objection is overruled. It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 148.")

[fol. 1947] Mr. Mason: Attention has been called, Mr. Masson, to the fact that this exhibit shows only four years. Is the preparation of the segregation appearing on this exhibit a somewhat detailed and laborious process?

A. It is quite a detailed and exhaustive process to go through and pick out this stuff from our records.

Q. Is that the reason why no more than four years are shown?

A. Primarily, yes. And also, it was my thought that four years would be sufficient, would answer the purpose of illustrating just the source of the business. I had no reason to believe but that the same showing would result if other years were analyzed in the same way.

Q. Will you take up, next, the statement in one sheet entitled "Statistics of Rail-Line Operations Within the State of Arizona, Main Line and Branches, Excluding Mixed Service, Years 1910 to 1939, Inclusive. Freight Trains." Have you that before you?

A. Yes.

Mr. Mason: May we have this statement marked as Defendant's Exhibit No. 149 for identification?

The Court: It may be marked.

[fol. 1948] The Clerk: Defendant's Exhibit No. 149 for identification.

Mr. Mason: Did you prepare No. 149, or cause it to be prepared?

A. I caused this exhibit to be prepared. It was prepared under my supervision and direction, and it is taken from the annual reports to the Corporation Commission of Arizona. The books for 1922 to 1939 are in the courtroom and 1910 to 1921, inclusive, will be furnished if the attorney requires them.

Mr. Strouss: No, we have them in the Corporation Commission.

Mr. Mason: Are all of these figures those which appear on the several reports to the Corporation Commission?

A. Excepting column 4.

Q. Is that a computed figure?

A. That is a computed figure.



Q. What does column 4 represent?

A. Column 4 represents average cars per train.

Q. What computation do you make in obtaining it?

A. You divide column 3 by column 2.

Q. So that the figures in column 4 are in fact the average car-miles per train-mile.

[fol. 1949] A. Average car-miles per train-mile, and they include everything but mixed trains.

Q. This also covers branch-line as well as main line operations.

A. Branch line and main line, short trains and long trains.

Q. The showing for the years, subsequent to 1924, as in preceding exhibits, includes the separately operated companies which were acquired in 1924?

A. Yes. Those companies, of course, were operated as part of the Pacific Lines.

Q. Subsequent to November first or approximately that date in 1924?

A. Yes.

Q. Has the exhibit been compared as to the original figures, and checked as to the computations?

A. Yes.

Mr. Mason: Have you any questions, Mr. Strauss?

Mr. Strauss: The average cars per train is the calculation?

A. Yes.

Q. Considering columns 2 and 3?

A. Yes, as I explained, it is simply a division of column [fol. 1950] 3 by column 2, or in other words, this is the car-miles per train-mile.

Mr. Strauss: No other questions.

Mr. Mason: Is the exhibit true and correct, Mr. Masson?

A. Yes, to the best of my knowledge and belief.

Mr. Mason: We offer the statement as Defendant's Exhibit No. 149.

Mr. Strauss: I object to it as irrelevant and immaterial.

The Court: The objection is overruled; it may be admitted.

(The document referred to was received in evidence and marked, "Defendant's Exhibit No. 149.")

Mr. Mason: Have you before you, Mr. Masson, a statement in one sheet bearing the title, "Statistics of Rail-Line Operations Within the State of Nevada, Main Line and Branches, Excluding Mixed Service, Years 1910 to 1939, Inclusive?"

A. Yes.

Mr. Strouss: Pardon me just a minute. May I ask one question concerning that previous one?

Mr. Mason: Yes.

Mr. Strouss: Does that include mixed trains or just straight freight trains?

A. No, freight trains, as indicated at the top of this [fol. 1951] sheet. In the heading it says "Excluding Mixed Service," and, as you probably know, the classification "mixed service" is no longer in effect.

Mr. Strouss: When I said I didn't want those reports, I do want to examine these reports from 1922 on.

The Witness: Yes, that is understood.

Mr. Mason: That is understood.

Q. I notice here on exhibit 149, Mr. Masson, a matter which may merit explanation. You show statistics for 1910 and 1911, which, of course, are prior to the existence of the Corporation Commission in the State of Arizona. Were those figures, for Arizona as a territorial unit, kept in the company's records prior to that time?

A. The figures are, of course, and have been back as far as I can remember, kept as part of the company records. These figures were taken from reports to the Corporation Commission to the State of Arizona or a report made to some other commission, of which I haven't the information right now.

Q. Its predecessor in territorial days?

A. Yes.

Mr. Mason: I take it, Mr. Strouss, that there is no question as to the authenticity, if it be material, of the figures for 1910 and 1911?

Mr. Strouss: No.

Mr. Mason: Now, referring to the statement which has been circulated and relates to the State of Nevada, the title of which I believe I recited; may we have that marked, if it has not already been marked, as defendant's exhibit 150?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 150 for identification.

Mr. Mason: Did you prepare exhibit No. 150 for identification, Mr. Masson?

A. I had this prepared.

Q. From what sources?

A. That was prepared from the reports to the Public Service Commission of Nevada back to 1911, inclusive, and 1910 was taken from our company records. We have the reports from 1922 to 1939 in court, the reports to the Nevada Commission in court. If the counsel wants reports from 1910 to 1921, inclusive, they will be made available to him.

Mr. Strouss: No, I will be satisfied with 1922 to 1929.

[fol. 1953] Mr. Mason: Mr. Masson, this exhibit is similar in form apparently to exhibit No. 149, the only difference being that it relates to Nevada rather than to Arizona operations?

A. That is true.

Q. The figures in column 4 represent the quotient of the division of the figures in column 3 by those in column 2?

A. Yes, those are computations.

Q. Includes all branch line operations as well as main line operations?

A. Yes, sir.

Q. And excludes mixed service as that is reported separately?

A. Yes, sir.

Mr. Mason: Have you any questions, Mr. Strouss?

Mr. Strouss: No questions.

Mr. Mason: Has the exhibit been compared and checked, Mr. Masson?

A. Yes.

Q. Will you say whether or not it is true and correct to the best of your knowledge and belief?

A. It is true and correct to the best of my knowledge and belief.

Mr. Mason: We offer the statement in evidence as de-[fol. 1954] fendant's exhibit No. 150 with the explanation of course that as part of our case in chief we desire and propose to make comparisons between Arizona and Nevada operations and this is one of the features of that comparison.

Mr. Strouss: It is objected to as irrelevant and immaterial and particularly pointing out to the court that it relates to operations without the state of Arizona and there has been no proper foundation laid and no showing of similarity.

The Court: Objection overruled; it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 150.")

Mr. Strouss: Of course I assume the court will adhere to the ruling which was mentioned the other day of requiring a similarity be shown before the defendant's case is completed.

Mr. Mason: I take it that the question whether a comparison when offered is to be made the foundation of any findings or decision depends of course upon a showing of similarity of conditions. If conditions are not shown to be reasonably similar, then the comparison loses its force and I think that is the extent of the objection. It is an objection [fol. 1955] more to weight than to sufficiency.

Mr. Strouss: It goes further than that, it goes to the admissibility of the evidence. As we have pointed out to the court heretofore, in the reverse order of proof which we have taken in this case the opportunity of the State to argue its objection based upon the record is not here because of the fact that they have chosen and elected to come in the back door instead of the front door, and all we can do is make our objection and of course the court permitting that order of proof we will have to wait to see what the final record is as made.

Mr. Mason: I will say this, from the face of these two exhibits, 149 and 150, it is possible and I think desirable at this point to indicate a similarity. Now, of course, car-miles or revenue freight ton-miles are a measure of the volume of revenue freight in the respective territories, and from an examination of column 3 it will be seen that the volume of revenue freight handled measured in car-miles in the several years in the states of Arizona and Nevada are reasonably close together and in some years very close together. In some years the volume in one state is heavier than the other, but the two are not so far apart in any year. [fol. 1956] So that the company's operations in the two states from the standpoint of volume of revenue freight handled may properly be held to be comparable. I realize

this is arguing the case at this point but I point out that column 3 does indicate a similarity from that standpoint.

Mr. Strouss: Whether they are comparable or not remains to be seen when all the evidence is in. There are a number of elements which will enter into that question when the matter comes to a final issue.

Mr. Mason: I think Mr. Strouss will agree with me that the volume of traffic to be handled is one of the elements to be considered.

The Court: You may proceed, gentlemen.

Mr. Mason: Have you anything further on No. 150, Mr. Masson?

A. No, I don't think so.

Mr. Mason: Before we pass to another exhibit, Mr. Strouss, have you any questions you would like to ask now on that exhibit?

Mr. Strouss: No, I have not.

Mr. Mason: Have you before you, Mr. Masson, a statement in one sheet entitled, "Southern Pacific Company, Pacific Lines, Freight Operating and Freight Transportation Expenses Related to Traffic, Calendar Years 1922 to 1939, Inclusive"?

A. Yes.

Mr. Mason: May we have the statement marked "Defendant's Exhibit No. 151" for identification?

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 151 for identification.

Mr. Mason: Did you prepare Exhibit No. 151 for identification or cause it to be prepared, Mr. Masson?

A. I caused this exhibit to be prepared and it was prepared under my supervision and direction. As shown in the footnote, the figures were taken from annual reports to the Interstate Commerce Commission; from the records of the company to and including 1935, and thereafter all of them came from the annual reports to the Interstate Commerce Commission. In other words, column 2 comes from the reports to the Interstate Commerce Commission in all years. Columns 3 and 4, from 1922 to and including 1935, were taken from the records of the company. We have those records in the court room. We have the reports to the Interstate Commerce Commission in the court room. Columns 5 and 6 are computations. All of the data shown



on this exhibit have been spot-checked by me, and I believe [fol. 1958] all of the figures to be true and correct.

Q. The totals and computations shown in the last three blocks of the exhibit are computed figures, are they?

A. Those are computed figures.

Q. Made by the summation of the figures for the years to which they relate?

A. That is true.

Q. And computations are as appear at the foot of the exhibit?

A. That is true.

Q. You speak of percentage of improvement and so forth. Does that mean a percentage decline as between the figures compared?

A. Yes, that means a reduction in the average cost expressed percentage-wise.

Q. And the percentage of improvement is arrived at. I take it, by subtracting the smaller figure from the larger and dividing the difference by the larger figure?

A. That is true.

Mr. Mason: Have you any questions on the exhibit, Mr. Strouss?

Mr. Strouss: When you say "expenses related to traffic," you mean by showing the cost per thousand revenue ton-miles?

[fol. 1959] A. That is true.

The Court: Mr. Masson, will you distinguish for the court what you mean by the freight operating expenses as distinguished from the freight transportation expenses?

A. Operating expenses are incurred for maintenance of way, maintenance of equipment, traffic, transportation, and general expenses. Those general classes of expenses are caused by freight and passenger operations. The total expenses incurred in one class of freight service, for instance, or in passenger service where directly incurred in connection with those particular services are allocated directly to that class of service. Where the expenses cannot be allocated direct or assigned direct to either one or the other service, they are broken down according to a formula between the two services, a formula that has been provided and prescribed by the Interstate Commerce Commission. Column 3 represents, therefore, the expenses that have been incurred in conducting freight service and were

assigned directly to that service, plus a proportion of what we know as common expenses that cannot be assigned to either one or the other service.

Mr. Strouss: That is, you mean, either passenger or [fol. 1960] freight?

A. Either passenger or freight service.

Mr. Mason: You mean assigned solely to either service?

A. That is true.

The Court: Such as maintenance of right of way?

A. Maintenance of way, although there are some facilities that are classified exclusively as freight facilities in the maintenance of which the expenses are assigned directly to freight service. Therefore, this column 3 represents the freight proportion assigned and allocated to maintenance of way, maintenance of equipment, traffic, expenses, transportation, miscellaneous services, if any, and general expenses. Column 4, on the other hand, is just a part of the expense. It is the expense that is incurred directly in connection with the transportation service, such as train service, the superintendence of train service, the dispatching, the station service, the wages of engineers and trainmen, and things of that kind.

The Court: Are the items shown in column 4, for instance, for the year 1939, forty-five million, is that included [fol. 1961] within and a part of the total shown in column 3?

A. Yes, sir, it was the intent and is the intent of this exhibit to show first what total expenses cost us per thousand revenue ton-miles. Next, as a side issue, but on the same exhibit, how much of that represents transportation expenses per thousand ton-miles.

Mr. Mason:

Q. When you say "total expense," you mean the total of freight operating expense?

A. Yes, I was speaking of only the freight proportion of operating expenses.

Q. Do you recall exhibit No. 20 introduced by the witness Parmelee relating to railroads of Class I of the United States?

A. Yes.

Q. And exhibits introduced through witnesses for other railroads similar in form to exhibit No. 20?

A. Yes.

Q. Will you say whether or not exhibit No. 151 for identification resembles and is intended to present statistics for the Southern Pacific lines in the same fashion as exhibit No. 20 for railroads of the United States as a whole?

A. Exhibit No. 151 is of the same substance as the exhibit presented by Mr. Parmelee and representatives of [fol. 1962] other lines except that it deals exclusively with the ton-miles and expenses of the Southern Pacific lines only.

Q. It is in the same form and presents statistics which correspond to those shown on the other exhibits?

A. That is true.

Q. Of which exhibit No. 20 is typical?

A. That is right.

Mr. Mason: Have you any questions, Mr. Strouss?

Mr. Strouss: Those freight operating expenses and freight transportation expenses are allocated according to the requirements of the Interstate Commerce Commission, are they not?

A. Yes.

Mr. Strouss: And the amounts shown in column 3—freight operating expense includes all items or accounts beginning with account 201 and ending with account 464 of the annual reports to the Interstate Commerce Commission?

A. 462. It represents the freight proportion of expenses that have been charged to the primary accounts within that range of numbers that you spoke of, 201 to 462. Of course, you understand there are several accounts within that [fol. 1693] range that we have no charges in.

Mr. Strouss: Wherever there is an expense in an account within that range, it is included within this total?

A. Yes.

Q. This total would be the over-all total of all those accounts where you have charges to any account?

A. Yes, as you will notice, take the year 1939 and refer to Schedule 320 of the annual report to the Interstate Commerce Commission for the year 1939, line 247, column E is the exact figure that is reproduced in this exhibit, column 3.

Q. In defendant's exhibit No. 9, there is a typical annual report?

The Court: That is true.

Mr. Mason: Exhibit No. 9 was a blank annual report?

A. Yes, form A.

Mr. Strouss: Freight transportation expenses as shown in column 4 here is the total of accounts 371 to 420 for each year wherever there are charges to that account?

A. That is true, and you will notice, taking 1939 for instance, the figure as shown in Schedule 320 of the Interstate Commerce Commission report, line 215 on page 311 shows [fol. 1964] in column E the exact figure that is shown as reproduced in exhibit No. 151.

Q. Of course that form has been changed somewhat in recent years?

A. Over the period of years there have been several changes.

Q. So far as this allocation of charges to freight and passenger, it is set up differently now than it was eight or ten years ago?

A. There have been modifications. The separation between freight and passenger was originally prescribed by the Interstate Commerce Commission entitled, "Rules Governing the Separation of Operating Expenses between Freight Service and Passenger Service on Large Steam Railways Effective January 1st, 1920."

Mr. Strouss: The point I was trying to show was that you referred to column E which gives you a total of the charges to freight when in the older annual reports it was necessary to add two different columns to get that.

A. That is very true and when I gave the reference I referred particularly to 1939.

Mr. Mason: These figures in column 4, are those the expenses that are particularly associated with the actual [fol. 1965] operation of the trains as distinguished from maintenance or traffic expenses?

A. Yes, it includes the operation of trains, main line and branches, road and yard.

Q. It includes, I think you said, the cost of the wages of the men who are actually manning the trains?

A. Yes.

Q. And the fuel for the train locomotives?

A. Yes.

Q. And other expenses which are particularly associated with the movement of the trains, is that correct?

A. Yes, along with other direct transportation expenses.

The Court: Are you offering this exhibit in evidence?

Mr. Mason: Yes, Your Honor, we offer the exhibit in evidence as exhibit No. 151.

Mr. Strouss: I object to it as irrelevant and immaterial.

The Court: Objection overruled, it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 151.")

The Court: We will recess at this time until 2 P. M.

[fol. 1966]

January 8, 1941, Two o'clock P. M.

Proceedings were resumed at this time as follows:

The Court: You may proceed. Will the witness who was on the stand resume the stand?

Mr. Strouss: I think they wanted me to take Mr. Mahoney.

Mr. Mason: If it is convenient to Mr. Strouss, he is ready to proceed with the cross-examination of Mr. Mahoney.

J. J. MAHONEY, was recalled to the stand, and testified further as follows:

Cross-examination.

By Mr. Strouss:

Q. Mr. Mahoney, you were testifying concerning the consists of your passenger trains. Your published schedules for use of the public show the consists, do they not?

A. Yes, they are included in the passenger train folder and, in addition thereto, we have our consist, which is prepared in my office that shows the consists of trains; and they vary from time to time as certain lines are added to the [fol. 1967] passenger trains, or discontinued. There are times that do not conform with the folder. However, the circular that I issue from my office is up to date and corrected at all times.

Q. Do you have that with you?

A. I don't happen to have one of those with me.



Q. This is one of your folders for the use of the public, is it not?

(Mr. Strouss hands a folder to the witness.)

A. That is for the Coast Lines.

Q. For the Coast Lines, yes.

A. Yes, sir.

Q. That would show the trains eastbound as they leave the coast, the consists of the trains?

A. Yes; that would be about correct, now. That would be December 22, 1940.

Q. Will you take that and give the consists of the trains that are shown in your exhibit?

A. Number 2, the Scout, in the last block under "East," lounge car, Los Angeles to Chicago, three tourist sleepers, Los Angeles to Chicago, an additional tourist sleeper, Los Angeles to Chicago, on Sundays, Tuesdays, Thursdays and Saturdays; additional tourist sleeper, Los Angeles to Chicago, via the Carlsbad Cavern. That car cuts out at Clovis, [fol. 1968] New Mexico. An additional tourist sleeper, Oakland to Chicago, which is picked up by Train No. 2 at Barstow, California, on Mondays, Wednesdays and Fridays; an additional tourist sleeper, Los Angeles, to Kansas City, dining car, Los Angeles to Chicago, chair car Oakland to Kansas City, two cars, two chair cars; Los Angeles to Chicago, chair car for women and children only. I might add that that is the normal consist, and that if it requires additional chair cars or additional tourist sleepers, why, they are added.

Q. That is true of each of the trains?

A. Yes.

Q. The consists as shown here with respect to each of those trains?

A. The normal consists. I might say this, Mr. Strouss: In the summer time, or summer months, the normal consist of that train is four light weight chair cars in addition to the light weight chair car for women and children only.

Q. That is eastbound?

A. Yes. And that is also out of Chicago. I might say this, to make it clear to you, that the consists of the trains from Chicago and from Los Angeles correspond in practice [fol. 1969] cally all trains, and we use six sets of equipment

in each assignment, that is, the train and its companion train.

Q. So that when these consists are given on the east-bound train, then the westbound train consists would correspond?

A. That is correct.

Q. Would that be true—

A. (Interrupting:) With this exception, that we may occasionally have one car more to take care of the traffic as it comes east, or have an extra car going west that may not come back in the companion train.

Q. Or it is possible that on westbound trains you would have some additional cars, Chicago to Denver, or to Colorado points?

A. Yes, and we may have additional cars clear through to California.

Q. I mean, you are more apt to have as a regular thing, and you do have, don't you, on the Californian, for example, sleepers from Chicago to Denver that are dropped off at La Junta?

A. That is correct.

Q. All right. Now, if you will give the consists for the rest of them.

A. No. 4, California Limited: standard Pullman from Los Angeles to Denver, tourist sleeper, Los Angeles to [fol. 1970] Denver, chair car, Los Angeles to Denver.

Mr. Mason: What page of the folder are you readings from, Mr. Mahoney?

A. Page 15.

Mr. Strouss: Page 9, isn't it?

The Witness: But that doesn't look to me like a complete consist of that train.

Q. Look at page 9.

A. Yes, I think this is it. May we strike that and start over.

The Court: It may be stricken.

A. Lounge car, Los Angeles to Denver, or lounge car to Chicago, Los Angeles to Chicago, sleeping car, Los Angeles to Chicago, sleeping car, Los Angeles to Chicago, sleeping car, Los Angeles to Denver, sleeping car; Oakland to Chicago, sleeping car, Los Angeles to Phoenix.

Mr. Strouss: Where does that cut out, at Cadiz?

A. Cadiz. Tourist sleeper, Los Angeles to Denver, Chair car, Los Angeles to Chicago, Chair car, Los Angeles to Denver, dining car, Los Angeles to Chicago. That is the consist of No. 4. No. 8 is the companion train to No. 7, our mail and express train. That train, the consist of that [fol. 1971] train, is governed exclusively by the number of cars of express and mail, as we handle only that rider, as we call it, which is a baggage compartment car, with seating capacity for sixteen people.

Q. The rest of the train is made up of baggage and mail?

A. Yes; so the consist of that train varies from day to day.

The Court: Is that your fast mail train?

A. Yes, Your Honor, that is the mail train east, companion train to No. 7, the mail train westbound. No. 20: Club lounge, Los Angeles to Chicago, Club baggage, Los Angeles to Chicago, four sleeping cars, Los Angeles to Chicago, sleeping car, Los Angeles to Kansas City, sleeping car, Phoenix to Chicago, which is picked up at Ashfork, and a dining car, Los Angeles to Chicago.

Mr. Strouss: I believe you passed 18, which is on the same page there.

A. Yes, No. 18, that is the Super-Chief: Club lounge, Los Angeles to Chicago, club baggage, Los Angeles to Chicago, four sleeping cars, Los Angeles to Chicago, and a dining car, Los Angeles to Chicago. The El Capitan is also a [fol. 1972] streamline, Diesel powered train.

Q. I notice, Mr. Mahoney, that on what you just read was Tuesday equipment. I notice on Friday equipment you have one additional sleeper on the Super-Chief. Is that correct?

A. Yes, that is correct; yes, that is shown here on the same page. Is 22 in this thing?

Mr. Mason: Yes, 22 is on page 8.

Mr. Strouss: It is right across the page, the first one.

The Witness: (Continuing) Baggage dormitory, dormitory chair car, Los Angeles to Chicago, two chair cars, Los Angeles to Chicago, lounge counter dining car, Los Angeles to Chicago, chair car, Los Angeles to Chicago, chair observation car, Los Angeles to Chicago. I might say this, Mr. Strouss, that that is the normal consist, but Friday, Decem-

ber third, we ran that train with fourteen cars. They vary from day to day, and especially during seasons like the holiday season we run it as high as fourteen cars, and likewise out of Chicago, Sunday, the fifth of this month we had a fourteen-car train.

Q. Of course, that was true of all of your trains, that you add cars when traffic demands it?

[fol. 1973] A. That is true. Now, we need the Grand Canyon Limited.

Q. That is on page 10.

A. Lounge car, Los Angeles to Chicago, sleeping car, Los Angeles to Chicago, sleeping car, Los Angeles to Chicago, via the Grand Canyon, sleeping car, Oakland to New Orleans, which car is picked up at Barstow, another sleeping car.

Q. Where is that cut out?

A. Clovis, New Mexico.

Q. Another sleeping car, Los Angeles to Chicago. We have another sleeper that we pick up at Ash Fork that goes to Winslow, a tourist sleeper, Los Angeles to Kansas City, another tourist sleeper, Los Angeles to Chicago, via the Grand Canyon, a dining car, Los Angeles to Chicago, chair car, Los Angeles to Chicago. I might add, that this consist doesn't show it, but we do have a smoker chair car in that train, which we convert into a Jim Crow car by inserting partitions in Oklahoma and Texas, as we pass through; and in addition to these consists, with the exceptions of the Super Chief and the El Capitan, is your head-end-baggage cars that we do not show in these consists, we may have one [fol. 1974] mail car or one baggage car that are not shown in the passenger folder.

Q. Will you state what is the usual consist so far as baggage or head-end cars is concerned?

A. Generally one car used as a buffer between the locomotive and the passenger-carrying cars. I would say that is generally. Sometimes we have maybe a working mail car and a storage car on some trains.

[fol. 1975] Mr. Strouss:

Q. Mr. Mahoney, yesterday you were asked concerning the type of traffic or principal commodities which are moved on the Santa Fe. Did you hear Mr. McDonald's testimony?

A. Yes.

Q. You heard him testify as to the annual reports and the different commodities that are moved as shown by the annual reports?

A. Yes.

Q. He read into the record the tons of different commodities like products of agriculture and the like?

A. It was the number of cars, wasn't it?

Q. It may have been the number of cars but anyhow that was put in by an exhibit or by reading into the record from Mr. McDonald's testimony?

A. Yes, sir.

Q. That does show the different types of traffic or the commodities that are moved on your road, does it not?

Mr. Mason: Just a moment, I call the court's attention to the fact that my question of this witness related to the predominant traffic carried on the main line and I think I addressed myself particularly to the main line across Arizona. If there is any attempt here to try to impeach Mr. McDonald [fol. 1976] by this witness or impeach this witness by referring to Mr. McDonald's showing, I respectfully submit that the cross examination is not proper, there isn't any consistency.

Mr. Strouss: I am merely trying to find out whether there is or is not.

The Court: Objection overruled, you may proceed.

Mr. Strouss: Were you testifying to the same matter that Mr. McDonald testified to?

A. As I understood Mr. McDonald's answer to the question, he gave the total cars handled and then he broke that down as between perishable products and agricultural products.

Q. As I remember his testimony, he gave the total of the different types like products of mines and products of agriculture and then broke down the products of agriculture in an exhibit, that is correct, isn't it?

Mr. Booth: The exhibits were in the form of photographic copies of the reports of Schedule 544, reports to the Interstate Commerce Commission and the corresponding schedules and the reports to the New Mexico and Arizona commissions for the year 1939, but in the first case that was a system showing and in the other two cases those were all



[fol. 1977] cars moving within those states on the main line branch within those periods.

Mr. Mason: Pages 1856 and 1857 of yesterday's transcript show that Mr. Mahoney didn't undertake to give any figures but merely mentioned in answer to my question some of the principal commodities handled in eastbound movement within or across Arizona upon main lines and a general description of the commodities moving westbound on the main lines which cross the state of Arizona.

Mr. Strouss: I will ask you now if the matter testified to by Mr. McDonald showed the commodities which are moved both east and west over your lines?

A. Yes, that is correct, the commodities he mentioned move in both directions.

Mr. Strouss: I am a little bit foggy on this perishable schedule. I understood you to testify, take the California schedule, that begins from the point of concentration?

A. Yes. I want to say this, Mr. Strouss, that the basic schedule that is undertaken by all lines operating in the West is based upon departing from one of the five California concentration points, namely, Colton, San Bernardino in southern California, Bakersfield, Roseville, and Sacramento in northern California.

[fol. 1978] Q. What I am trying to reconcile is your testimony as I understood it, that the schedule begins at the point of concentration, say, Bakersfield?

A. All schedules are predicated upon a three A. M. departure from those five points.

Q. Let me finish my question and you will see what I am getting to. Then I understood you to testify that the 1390 hour schedule applied to the whole of the state of California?

A. That is correct insofar as the Santa Fe railroad is concerned. That is correct with traffic originating on our own rails and I further stated that traffic originating on connecting line rails that reached our junction that would permit such traffic arriving at our concentration points prior to

P. M.

Q. That is before the the run-off time had expired?

A. Yes.

Q. We will take it a step at a time. I am probably a little dense on this and would like to be straightened out. You say this is applied for the whole state of California. Suppose, using Bakersfield as a concentration point and taking a

particular car which is out of some point, say, 25 or 30 miles from there, must that car be in Bakersfield before the run-off time, has expired in order to come on that day's schedule?

A. That is correct.

Q. From an outlying point the car must be brought into Bakersfield in order to be brought into that day's schedule?

A. That is correct.

Q. You say cars loaded the previous day, the basic schedule would begin at 3 A. M. That would mean that the car would have to be loaded, loading completed at 12 o'clock midnight?

A. That is correct.

Q. Forgetting for a minute the pre-cooling and the run-off time, a car would have to be loaded and then brought into the concentration point before 3 A. M., loaded before 12 midnight, and brought into the concentration point before 3 A. M. in order to get into that day's schedule. I am disregarding any additional time of run-off time or because of pre-cooling.

A. No, Mr. Strouss. I think I can explain it this way. The basic schedule from California concentration points is predicated upon a 3 A. M. departure with a 12:30 A. M. arrival the seventh morning at Chicago with a total over-all of 139 hours and 30 minutes, also includes a 16-hour run-off.

[fol. 1980] Q. I understand that but I was trying to disregard that for the time being.

A. That is the basis on which we handle the traffic. There is no traffic originating in California that must be in a concentration point by 3 A. M. to move on that day's schedule.

Q. With the run-off period it would have to be in by 7 P. M.?

A. Following the date of loading, yes, sir.

Q. You said that pre-cooling under the agreement in California, I believe it allows them to 5 A. M.?

A. That is correct.

Q. And that they sometimes add to your run-off time, making it 20 to 21 hours? Why is that when your run-off time extends to 7 P. M.?

A. When we entered the agreement with the shippers in California at a meeting in Fresno, California, permitting them to pre-cool their shipments until 5 A. M. of the morning of the following day of loading, the California lines themselves agreed that if the traffic arrived at a concentra-

tion point by 7 P. M. that we would permit that traffic to be handled out on that day's schedule. Now with our traffic starting to be assembled at 5 A. M. at the most distant point [fol. 1981] from the concentration point it is a very tight schedule in the pickup service to get that all to the concentration points by 7 P. M. and then the traffic must be iced, made up into trains, and very, very often the trains do not depart the concentration point until midnight or after and that delay is all run-off before we get to Chicago.

Q. The delay is not due to an extension of the time, it is due to a congestion in the cars coming in at the end of the run-off period, making it impossible to get them out rapidly?

A. That is correct. I would say there is considerable bunching of trains into our concentration points which makes for delay in the getting of cars in, made up, re-iced, and out.

Q. This morning you were asked about the operation of your trains during a typical period and other times and you testified that they were operated under a book of rules issued by the company?

A. That is correct.

Q. There are really several books, aren't there, there is a book of signals, a book of duties of the crew, and a book on brakes?

A. Yes, but what I referred to, Mr. Strouss, was the [fol. 1982] operating book of rules which governs the transportation employees in the operation of the train. We do have, as you say, other books of instruction and rules regarding air brakes and signals.

Q. They govern the transportation employees in the operation of the train do they not?

A. As well.

Q. And the rules that are contained in your trainmen's timetables, special instructions?

A. Special instructions and rules contained in the working timetables.

Q. During the operation of this typical period were those rules in effect?

A. Covered by my exhibit?

Q. Yes.

A. Yes.

Q. Were there any unusual rules, any peculiar rules that were used during that period that were not used in the ordinary operation of your trains?

A. No, sir.

Q. Are you familiar with these different rules?

A. Well, I might say that I am a little hazy on the book of rules, I haven't been in contact with it since I was train master.

Q. Your air brake instructions are in what is known as [fol. 1983] the "Green Book"?

A. That is correct.

Q. Is this a copy of it (handing book to witness)?

A. Yes, that is a copy of it.

Q. Will you read into the record the part between the pencil-marks there, please?

Mr. Mason: Let me see it, please. I object to the question as not proper cross examination, the witness hasn't testified to anything in connection with the air brake book. I asked him only as to the transportation book of rules.

Mr. Strauss: They have a showing as I understand it of similar operations to the Southern Pacific and we have a right to show what the nature of the operations are.

Mr. Mason: Make the witness your own witness when your own case is on, Mr. Strauss. It is not proper cross-examination.

Mr. Strauss: He has testified as to operations here, typical operations and we have a right to go into what those operations are. He says they are governed by rules and these are some of the rules.

The Court: My recollection is, Mr. Mason, that you asked this witness with reference to certain operating instructions [fol. 1984] books which were given to their employees for their guidance under which they operate. You are speaking, Mr. Strauss—

Mr. Strauss (Interrupting): To put in evidence what those regulations are.

Mr. Mason: I asked him about the transportation book of rules, which as Mr. Strauss in his examination disclosed is quite distinct from the air brakes book.

Mr. Strauss: The question was whether they didn't operate under rules of operation.

Mr. Mason: It was in this morning's record.

Mr. Strouss: The question this morning didn't designate any book.

The Court: I will overrule the objection. You may answer. Will you make it clear what book you are reading from and the page.

Mr. Mason: May we have him specify the date of publication?

The Court: Yes.

The Witness: I am reading from form 2501, Standard Santa Fe Instructions for Operating and Maintaining Air Brake Apparatus.

Mr. Mason: I think the date of publication is shown on the title page.

The Witness: Revised 1926 by the A. T. & S. F. Ry. On page 12 under item "Brakes sticking."

[fol. 1985] Mr. Mason: Just a minute, would it be all right to copy it in?

Mr. Strouss: Yes, but I want the court to hear it, I would rather have it read.

The Court: Go ahead and read it.

A. (Reading:) "As a general rule the cause for brakes sticking is due to the failure to raise the brake pipe pressure quickly above the auxiliary reservoir pressure which must be done in order to move the triple valve parts to release position. It is more difficult to release the brakes on a long than on a short train and there is a difference between triple valves that stick and fail to release and those that release with the others and reapply, or those that creep on when the brakes are not being used. The first mentioned may be due to failure to raise the brake pipe pressure promptly or an individual triple valve having a bad packing ring. The second mentioned (which is most likely to occur on the head end) can be due to a slight overcharge while the third mentioned (the creeper) can only be caused by an erratic working feed valve, a closed angle cock or the engineman moving the brake valves to release and back to running position after train is charged and with a little study of the operation of the equipment [fol. 1986] if the experience of everyday practice is made use of much of the trouble can be anticipated and prevented."



Mr. Booth: We ask that the whole book be in evidence and we will undertake to furnish a copy of it and identify the copy to counsel.

Mr. Strauss: That is agreeable to me.

Mr. Booth: We will offer the whole book.

The Court: It may be admitted in evidence if there is no objection.

Mr. Strauss: You will provide me with a copy of the book?

The Witness: I will undertake that. How many copies?

Mr. Booth: Three copies.

Mr. Strauss: I would prefer to have one of these copies that are being brought in put in evidence. This is borrowed.

Mr. Booth: Yes, I understood that.

Mr. Strauss: This is one of the employee's books for which he is answerable.

Mr. Booth: That is why I suggested getting the copies.

The Court: You will furnish those, Mr. Mahoney?

A. I will mail those to Judge Booth.

[fol. 1987]. (The document referred to was received in evidence and marked "Defendant's Exhibit No. 152.")

Mr. Strauss: I am not offering this in evidence, I just want to first offer the parts I am interested in. They may offer the whole book when it comes their turn on rebuttal.

Mr. Booth: I think it is a general rule of evidence when a publication is shown to a witness and he is asked to read an excerpt from it where, as it is claimed here, there are other rules that explain and may be construed as modifying these rules, that we are entitled to have the whole publication go into evidence.

Mr. Strauss: They are, if they want to offer the rest of it.

Mr. Booth: We do want to offer the rest of it.

Mr. Mason: I understand the record now shows it has been offered and no objection made and received and is now exhibit No. 152.

Mr. Strauss: It is not their turn to fish in the pond, I am doing it now.

(Discussion off the record.)

[fol. 1988] The Court: You may proceed.

Mr. Strauss: May these be marked for identification as one exhibit?

The Court: They may be marked.

The Clerk: Plaintiff's Exhibit No. 153, for identification.

Mr. Mason: May we have identified in the record what 153 consists of?

The Court: Yes, you may state, Mr. Strouss.

Mr. Strouss: I will. I think I will let Mr. Mahoney state. He can probably state better than I can. Will you state what these are, Mr. Mahoney?

A. These are the employees' working timetables for the New Mexico Division of the Western Lines, Northern District, Albuquerque Division, Arizona Division, Los Angeles Division of the Coast Lines.

Mr. Mason: What are the effective dates of the several timetables?

A. All effective October 27, 1940, 12:01 A. M.

Mr. Strouss: And they are the timetables now in effect?

A. In effect at the present time.

Mr. Strouss: We offer those in evidence.

Mr. Mason: No objection.

[Oct. 1989] The Court: They may be admitted.

The Witness: Do you need additional copies to those?

Mr. Strouss: You better have several additional copies of those.

The Court: This probably is the plaintiff's first exhibit.

Mr. Strouss: Yes.

The Court: Mr. Clerk, you may mark this particular exhibit "Plaintiff's Exhibit 153, in evidence."

Mr. Strouss: It is for identification first, and then in evidence. No further questions.

Redirect examination.

By Mr. Mason:

Q. Mr. Mahoney, you were asked to read in from the Coast Lines timetable issued for the information of the public, the consists of certain trains which are shown or referred to on Exhibit No. 139. Now, I will ask you if the timetable from which you read isn't the one effective on and after December 22, 1940?

A. Yes.

Q. And that is subsequent to both of the periods referred to on Exhibit 139?

[fol. 1990] A. Yes. I might say that this is our winter season folder, and we issue folders as summer folders and winter folders.

Q. Now, I will ask you this, also, whether the consists, as advertised to the public in the folders, do or do not indicate the minimum number of passenger-carrying cars of various classes which those trains will normally carry?

A. Yes, that is the minimum schedule, or the normal consist.

Q. And in addition to whatever passenger-carrying or passenger accommodating cars may be shown in the schedules, or the consists, rather, as advertised to the public, there may be head end cars such as baggage and mail cars, I think you mentioned.

A. Yes, there is. We use a buffer in all of our trains.

Q. Is there sometimes more than one such car?

A. Yes, generally there is a mail and storage mail, or mail and a baggage.

Q. Now, in reference to the movement of pre-cooled traffic, do you have traffic originating in California in the neighborhood of points such as Modesto and Lodi?

A. Yes.

[fol. 1991] Q. That concentrates at Bakersfield, does it?

A. Yes.

Q. Does any pre-cooled traffic originate in that neighborhood?

A. Yes, there is.

Q. If I understand your explanation correctly, it is that this pre-cooled traffic may be held at the point of pre-cooling until five A. M. following the day of loading; is that correct?

A. That is correct.

Q. And if it is pre-cooled, for example, at Lodi, it may then move after five A. M. to Bakersfield?

A. That is correct.

Q. And will still be given the schedule from Bakersfield timed theoretically to start at three A. M. of that same day?

A. That is correct.

Q. Now, about how far is Lodi from Bakersfield for traffic moving over the Santa Fe from Stockton?

A. I would say approximately three hundred miles.

Q. Mr. Mahoney, is any of the extension, or increase of the run-off time, by reason of the latitude allowed to [fol. 1992] these pre-cooled shipments due to the fact that

the shipments need not be released until five A. M. of the day following the date of loading?

Q. I don't think I understood.

Q. You said that the run-off time in case of pre-cooled shipments, or because of the pre-cooled shipments, sometimes was increased from sixteen to twenty or twenty-one hours?

A. That is correct.

Q. I will ask you if any of that increase is due to the latitude allowed to shippers of pre-cooled traffic in being permitted to hold their shipments until five A. M. of the day following the date of loading?

A. Yes, and I might add further that all of the delay beyond the 16-hour run-off is absorbed by the California Lines themselves in running off the delay.

Mr. Mason: That is all, Mr. Mahoney.

Recross-examination.

By Mr. Strauss:

Q. Could you furnish the consists of your trains during the summer months, for the past summer months, of these trains?

A. Yes, I can, both ways, if you desire.

[fol. 1993] Q. Will you do that?

A. Yes, I will be glad to.

Mr. Mason: We can introduce that as an exhibit with the appropriate number at the time.

The Witness: Of these same trains that are shown in this exhibit?

Mr. Strauss: Yes.

The Witness: I will do that.

The Court: Is there any further examination of this witness?

Mr. Strauss: No further examination.

The Court: Then, may Mr. Mahoney with his records be excused?

Mr. Strauss: Yes.

The Court: It is so ordered.

(Witness excused.)

Mr. Mason: Mr. Dyer, will you take the stand, please?

JOSEPH HENRY DYER was called as a witness on behalf of the defendant and, being first-duly sworn, testified as follows:

Direct examination.

By Mr. Mason:

Q. Mr. Dyer, will you state your name to the reporter, [fol. 1994] please?

A. Joseph Henry Dyer.

Q. Where do you reside, Mr. Dyer?

A. San Francisco.

Q. What is your present position with the Southern Pacific Company?

A. Vice-President, in charge of maintenance and operations.

Q. When did you first join forces with the Southern Pacific, Mr. Dyer?

A. In March, 1888.

Q. Have you served the Southern Pacific continuously since that time?

A. Continuously since 1888.

Q. Will you just state the positions you have occupied, not necessarily the times, but the positions themselves, to show your experience in service.

A. I was track laborer and a track foreman from March, 1888, to the fall of 1889; I was freight brakeman from 1889 to 1895; freight conductor from 1895 to 1902; general yardmaster, Sacramento, Roseville and other points on the Sacramento division, from 1902 to 1904; from 1904 to 1908 I was trainmaster on the Sacramento division; 1908 to [fol. 1995] 1911 I was superintendent of the Shasta division extending from Red Bluff, California to Astland, Oregon; from 1911 to 1914 I was superintendent of the Tucson division, located here in Tucson, Arizona. The division at that time extended from Yuma, Arizona, to El Paso, Texas. From 1914 to 1916 I was superintendent on the Sacramento division, which division extends over the Sierra Nevada Mountains, from Sacramento to Sparks, Nevada, and Sacramento to Dunsmuir, California; from 1916 to 1918, I was assistant manager of what is known as the Northern District. Those lines extended from San Francisco, California, to Ogden, Utah, and Portland, Oregon.



From 1918 to 1929 I was general manager of the entire system, Pacific System, extending from El Paso, Texas, to Portland, Oregon, and Ogden, Utah. 1929 to date, I have been vice-president in charge of operations.

Q. Now, as vice-president in charge of operations, what is the scope of your duties, and your responsibility, Mr. Dyer?

A. Responsible for all operations and maintenance.

Q. And do the general officers, respectively charged in [fol. 1996] dividually with the maintenance, engineering and operations report to you as the head of the department?

A. They do. The chief engineer for maintenance of the property, and the general superintendent of motive power for the maintenance of equipment, and the general manager for the transportation.

Q. You have testified, Mr. Dyer, that you were superintendent of the Tucson division at Tucson in 1911 and until 1914?

A. That is correct.

Q. Did the Tucson division at that time include all of the Southern Pacific lines in the State of Arizona?

A. As they exist now?

Q. No, as they existed at that time?

A. Yes, all the lines between Yuma, Arizona, and El Paso, Texas, including the Nogales branch.

Q. There was no Rio Grande division at that time as at present, including part of the line in Arizona?

A. No.

Q. And your jurisdiction then covered all of the Southern Pacific lines in Arizona?

A. That is correct.

Q. Now, without undertaking to go into detail precisely, [fol. 1997] will you say from your experience of that time what was the general weight of the rail in the main line as of that day?

Mr. Strauss: Objected to as immaterial.

The Court. Objection overruled.

A. The weight of the rails was 75, 80 and some 90 pound rail, but very little.

Mr. Mason: That is on your division in 1912?

A. That was on the Tucson division in 1912.

Q. Now, in 1912, Mr. Dyer, and referring yourself to the map which is on the easel and which has previously

been introduced and received in evidence as Exhibit No. 1, will you state whether the line from Wellton via Phoenix to Picacho, existed at that time as part of the Tucson division?

A. It did not.

Q. Did the line from Tucson, formerly a part of the El Paso and Southwestern, to Mescal and thence via Douglas to El Paso, exist in 1912 as a part of the Tucson division?

A. Not as part of the Tucson division; that was owned by the El Paso and Southwestern. In 1912 they started the construction of the line from Douglas to Tucson.

Q. Now, did the branch which now extends from Tucson [fol. 1998] direct to Nogales, did that exist, or was that under construction at that time?

A. That was under construction in 1912.

Q. Now, returning again to the situation on your division in 1912, generally speaking, what was the prevalent length of the sidings, the passing sidings?

A. Well, they varied, they would hold from about 45 to 65 or 70 cars, they varied in length.

Q. What types of freight and passenger locomotives did you use in the Tucson division in 1912; and I will ask you in this connection, to refer to the diagrams which are in evidence as Defendant's exhibit Numbers 5 and 6, No. 6 is the passenger power, and No. 5 the freight power of the Southern Pacific.

A. The freight power was a consolidation engine.

Q. Did you use the Mogul type?

A. Some Moguls were used in freight service, the consolidation engine was the largest engine we had on the division.

Q. In passenger service, did you use the ten and twelve wheeler, or the Mogul?

A. We used what was known as the Atlantic type between Yuma and Tucson, and the Mogul type engine between [fol. 1999] Tucson and Lordsburg, and the Atlantic type between Lordsburg and El Paso.

Q. Do you recall the wheel arrangement of the Atlantic type? I see it is not shown on either of those exhibits.

A. Yes, it was two large drivers and the engine truck.

Q. On each side?

A. Yes.

Q. Does that correspond to the 4-4-2 under the Whyte arrangement?

A. Yes.

Q. I will ask you to refer to the Southern Pacific Company's classification and assignment of locomotives—

(Addressing Mr. Strouss:) Are you familiar with the book, Mr. Strouss, as showing some of the Atlantic type locomotives now in service?

Q. (Continuing) My question, Mr. Dyer, had to do with the Atlantic type shown on page 42. I will ask you by referring to the locomotive book, what the tractive effort of a typical A-3 Atlantic type locomotive type is, as shown by that book?

A. They varied from about 23,000 tractive power to 27,000.

[fol. 2000] The Court: Was that passenger or freight?

A. Passenger, known as the Atlantic type locomotive.

Mr. Mason: Were those A-3 locomotives the type that you had in passenger service on the Tucson division in 1912?

A. Yes, between Yuma and Tucson, and Lordsburg and El Paso.

Q. Now in 1912, Mr. Dyer, were the freight cars all steel or steel underframe cars, or were you still operating some proportion of all-wood cars?

A. I would say probably forty per cent of the equipment in 1912 was of wood construction.

Q. What about the passenger cars as of that date?

A. They were wood construction with steel underframe.

Q. Did you operate standard Pullmans at that time?

A. Yes.

Q. Were they steel or wooden cars?

A. Wooden superstructure and steel underframe.

Q. Generally speaking, what was about the average length of the main line freight trains that you operated on the Tucson division in 1912?

[fol. 2004] Mr. Strouss: Object to that as immaterial.

The Court: Objection overruled.

A. In cars?

Mr. Mason: In cars.

A. The average length was about 45 to 47 cars.

Q. And what was the average length of the passenger trains operated in main line service as of that time?

A. About nine to ten cars.

Q. You recall, of course, the enactment of the Arizona Train-Limit Law in 1912; do you, Mr. Dyson?

A. Yes, sir, very well.

Q. Will you say whether or not the limitations of the law, the 70 and 14 car limitations, respectively, had any effect, or substantial effect, upon your operations in 1912 on the Tucson division?

Mr. Strouss: I object to that as immaterial and as calling for the conclusion of the witness, on a matter that is capable of proof.

The Court: I think it is material, but is calling for a conclusion.

Mr. Mason: Well, Your Honor, I think that the witness is eminently qualified to say whether a statutory limitation of seventy cars had any substantial effect upon the length of the trains which he was then operating as superintendent of the division, and which division included all of the Southern Pacific Lines in Arizona.

Mr. Strouss: I think the Court is eminently qualified to arrive at whatever conclusion is necessary from the facts as they are shown.

The Court: No, I will overrule the objection. He may answer.

Mr. Mason: I will rephrase the question if that will perhaps meet the objection.

Q. Did the enactment of the Arizona law, and particularly of the 70-car limitation, cause or compel you to reduce any substantial number of the freight trains you were then operating?

A. It had very little or no effect on our operations when the law was passed.

Mr. Strouss: That doesn't answer the question. I move that the answer be stricken.

The Court: That is true. It may be stricken.

Mr. Mason: Well, then, I will ask that my previous question be read, the one prior to the question just answered.

(Thereupon, the following question was read by the reporter: "Will you say whether or not the limitations of

[fol. 2003] the law, the 70 and 14 car limitations, respectively, had any effect, or substantial effect, upon your operations in 1912 on the Tucson division?")

Mr. Mason: I would like to re-submit that question and ask it of you again, Mr. Dyer. Mr. Strouss: We renew our objection.

The Court: Objection overruled. You may answer.

A. It did not. I might qualify that by stating that if it did, it was in a very small measure. Occasionally we would operate a train of probably 71 or 72, as high as 74 empty cars westbound, but that was very, very seldom.

[fol. 2004] Mr. Mason: Mr. Dyer, from your standpoint as general manager or as vice-president in charge of operations about what year did you begin to experience any effect of the Arizona law upon Southern Pacific operations in Arizona?

Mr. Strouss: That is objected to as calling for a conclusion of the witness.

The Court: Objection overruled, you may answer.

A. In 1925 we began to feel the effect of this train limit in Arizona.

Mr. Mason: What was the circumstance that led to that?

A. Due to the purchase of a large number of heavy locomotives in the years of 1918, 1919, and 1920 and up to and including 1925.

Q. Were those locomotives of larger hauling capacity than you had previously operated?

A. Very much larger, and due to the volume of business being handled, seasonal operations; it was necessary in order to get the use of that power to transfer it from one district to another. I might explain, if I am permitted, that in the spring of the year, due to the cantaloupe and lettuce movements, the business is heavier through Arizona to the East and in the same period there is light business on the [fol. 2005] Ogden route and as the result of that our business is transferred from the Ogden route to the southern route and when this rush is over, in the fall, during the heavy deciduous fruit movements the engines are transferred to the northern divisions.



Q. When you speak of these heavy locomotives, what particular types of power acquired in the years 1918 to 1920 do you have in mind?

A. What are known as 2-10-2's.

Q. Did you acquire any 4-8-2 locomotives in that period?

A. Mikados?

Q. No, the Mountain type.

A. Yes, that is a passenger engine.

Q. Is it used at times on freight?

A. Yes, used at times on freight. Three classes of the 2-10-2, 3,600 up to 3,785 all heavy 2-10-2's. In 1925 we purchased 50 what are known as a three-cylinder engine, five thousand series, which is still a heavier engine, and in 1928 we made purchase of what is known as the Mallet Consolidation, still a larger engine, heavier locomotive.

Q. Mr. Dyer, as assistant general manager in 1916 did your jurisdiction extend to and include the lines in Nevada [fol. 2006] and Utah?

A. It did.

Q. Your jurisdiction as general manager and vice-president included those lines?

A. Yes.

Q. Is there any difference between the code of operating rules of the Southern Pacific applicable in Arizona and in Nevada and Utah, respectively?

A. No, the same rules apply.

Q. Is there any difference in the standards of maintenance of the properties in the two states?

A. No difference whatever.

Q. Is there any difference in the character of the rolling equipment used in the two states?

A. No; the rolling equipment is used all over the system.

Q. Do you use the same engines sometimes in Nevada and at other times in Arizona or on the southern route?

A. That is correct.

Q. Do you transfer officials of the company, operating officials of the company such as train masters, superintendents, and assistant superintendents, or promote them from the Nevada division to the Arizona division and vice versa.

A. All over the system we rotate those men, both our [fol. 2007] superintendents and train masters are promoted. For instance, a man may be assistant superintendent or train master today on the Salt Lake division and may be

transferred here and the next promotion to assistant superintendent in the Tucson division or vice versa. We aim to give our men in making promotions experience on all the properties under my jurisdiction.

Q. In your own experience, you came from the Shasta division to the Tucson division?

A. As superintendent.

Q. And returned to the Salt Lake division?

A. Yes.

Q. Have there been instances of men who were division officers on the Tucson division being made division officers on the Salt Lake division?

A. No, but there are assistant superintendents who were on the Tucson division who were made superintendents of the Salt Lake division.

Q. Is there a transfer of the engineering personnel of the division?

A. It follows the same course, division engineers and master mechanics, not so much in the mechanical department as it is in the roadway department.

Q. Are you familiar in a general way with the character [fol. 2008] of the traffic handled on the main lines across Nevada and Arizona?

A. Yes, sir, in a general way.

Q. Is there any substantial movement of perishable traffic over either or both of these lines?

A. Very substantial movement of perishable traffic on both lines.

Q. Is that traffic handled on the refrigerator cars?

A. Yes, sir.

Q. What direction does that traffic move in a predominant volume?

A. Eastbound, and the empties are returned light or empty westbound.

Q. Is the empty movement of refrigerators of the same character on both lines?

A. Yes.

Q. Is the return of the empty refrigerator cars a matter of any importance during the producing or heavy shipping seasons?

A. Just as important as moving a carload of perishable freight. We have to get those refrigerators back to the originating point for the load.

Q. What is the predominant character of the westbound movement over these two lines and does it differ substantially in Arizona as compared to Nevada?

A. The westbound movement is about the same on both lines. It is what they call "manifest" freight movement to the coast, mostly Los Angeles, moves by the southern gateway to southern California and to northern California it moves by the Ogden gateway.

Q. From the operating standpoint, are you familiar with the operating obstacles and problems to be overcome on both routes?

A. I don't quite get your question, Mr. Mason.

Q. The grades and curvatures?

A. Oh, yes.

Q. And such problems as may be afforded by weather and similar conditions?

A. Yes.

Q. Is there any substantial climatic difference which has an effect upon railroad operations as between Arizona and Nevada?

A. Very much so.

Q. What is that difference?

A. The heavy snows over the Pequop Mountains in Nevada in extreme cold weather in the winter months ranging as low as twenty and thirty and I have seen it as low as forty-five degrees below zero at Wells, Nevada.

[fol. 2010] Q. Is any such weather as that encountered in Arizona?

A. No.

Q. Apart from the severe winter weather is there any substantial climatic difference which would affect railroad operations as between the two states?

A. No, outside of the climatic conditions.

Q. Outside of the cold weather?

A. Outside of the cold weather they compare very favorably towards each other.

Q. What as to the grades and curvatures?

Mr. Strauss: I object to that as calling for a conclusion and a matter which is a matter of record of the company.

Mr. Booth: This is merely preliminary, Your Honor, we will produce those in great detail.

Mr. Strauss: Even if it is preliminary, a conclusion is not permissible.

The Court: I will sustain the objection to this question.

Mr. Mason: From your standpoint as an operating man of long experience, is there any difference between the possibilities of long train operation in Nevada and in Arizona except as to the restriction contained in the Arizona Train Limit Law?

Mr. Strouss: I object to that as calling for a conclusion. [fol. 2011] The proof of what the conditions are will be determined from facts. Certainly the court is not going to have the witness decide whether the trains can be run as easily in one place as in another. There are conditions and facts which should be shown that haven't been shown yet.

Mr. Mason: Do I understand that the objection is on the ground it calls for a an opinion of the witness?

Mr. Strouss: It calls for a conclusion as to matters which are capable of proof by fact.

Mr. Mason: The witness is very well qualified to state the answer to the question from his standpoint as an operating man of long experience. I don't know where we could find a more highly qualified man, a man who can view this matter from the standpoint of the Southern Pacific and as one who has undertaken and solved those very problems which I am asking him.

Mr. Strouss: That is not the only criterion as to whether opinion evidence is admissible. A man may be one of the outstanding men in his profession or calling and yet if the situation is one which is capable of proof by facts there is no necessity for opinion evidence. There isn't any showing [fol. 2012] here that this is something which cannot be shown by the facts themselves. As a matter of fact is is quite apparent that the facts with respect to the conditions of operations can be shown.

Mr. Mason: I think the objection is addressing itself to a previous question or to a question that Mr. Strouss hopes and fears that I will ask and not to the question which I did ask. I would like to have the question I did ask read to the court so he may understand what I am asking for.

The Court: Read the question.

(The last question was read by the reporter.)

(Discussion off the record.)

[fol. 2013] Mr. Strouss: The matter of whether the testimony is admissible or not is not dependent solely on whether the witness is qualified. There is the question of the necessity of opinion evidence. There hasn't been any showing that there is any necessity for opinion evidence. They are jumping clear over the stream by asking a question without showing any facts or without any opportunity to go into the facts. They are asking whether there are any conditions other than the Train Limit Law which would affect the operation of trains in Arizona the same as in Nevada.

Mr. Mason: That is not the question I asked.

The Court: Read the question again.

(The question was read by the Reporter as follows: "From your standpoint as an operating man of long experience is there any difference between the possibilities of long train operation in Nevada and in Arizona except as to the restriction contained in the Arizona Train Limit Law").

Mr. Strouss: That is just one way of saying "are the operating conditions any different in one state than in the other?" This is a matter which is capable of proof and then from the facts which are proved that opinion which is here [fol. 2014] asked is to be determined. Without the Court even having heard what the evidence may be, without anything to indicate it, we don't think that is proper, certainly without a further showing that the problem is one which a layman couldn't determine for himself. The rule is laid down in Corpus Juris at 22 Corpus Juris, 498, (reading) "The danger involved in receiving the opinion of a witness is that the jury may substitute such opinion for their own, and the courts will not require parties to encounter this danger unless some necessity therefor appears. Accordingly, where all the relevant facts can be introduced in evidence, and the jury are competent to draw a reasonable inference therefrom, opinion evidence will not be received". It is no different in a case which is tried to the court than to a jury.

The Court: Your point is there is no evidence yet as to operating conditions in Nevada, that they are jumping over the operating conditions and asking for a comparison between the operations in the two states without having shown as preliminary the conditions in Nevada.

Mr. Strouss: Showing the similarity of conditions and drawing a conclusion as to any facts without stating what



[fol. 2015] the conditions are. (Reading) "When the facts are such as can be detailed and described and the jury is able to understand them and draw a conclusion without opinion evidence, the *the* necessity for opinion evidence does not exist." That is 35 Pacific 663. That is the rule universally followed by the courts and it is on that rule that I am making my objection.

Mr. Mason: Your Honor, this is ~~not~~ a jury case and the rule certainly has a greater latitude in a case which is tried to the Court. The rule as stated by your Honor is the rule which is applicable here, and again, this does not ask primarily for the opinion of the witness upon what your Honor stated was one of the vital elements in the case but rather it asks him if there is any difference from his standpoint as an operating man. When the question is clearly understood it seems to me that all of this reference to opinions before juries falls entirely wide of the point and what your Honor has stated in the rule from Jones is the applicable rule here.

Mr. Strouss: There hasn't been anything here to show that the Court cannot arrive at these facts if they are shown to the Court. This is just an attempt to avoid showing the [fol. 2016] facts.

Mr. Mason: I don't think there is going to be any attempt at avoidance of showing the facts. Your Honor, we expect you will be an expert on railroad operations before this case is closed, but at this stage of the case I think none of us have arrived at that point except perhaps Mr. Dyer.

The Court: Well, in this instance you are asking for a comparison where in one instance you have no factual basis on which to predicate it. There has been considerable testimony from other witnesses as to conditions in the State of Arizona of the ruling grade and general operating conditions and up to date you might say there hasn't been a word of testimony as to conditions in the State of Nevada, yet you are in effect seeking by this question to draw a comparison between the two operations. I have no question in my mind but what this witness is qualified to give such an opinion but whether he is entitled under the rules of evidence to give that opinion without the factual situation being developed is a question in the Court's mind and on second thought I am going to sustain the objection.

Mr. Mason:

Q. Mr. Dyer, do you operate trains in excess of 70 cars in Nevada?

[fol. 2017] Mr. Strouss: Objection to that as immaterial. The Court: Objection overruled; he may answer.

A. We operate trains in excess of 70 cars not only in Nevada, but California as well and Oregon.

Mr. Strouss: I move to strike the last part.

The Court: I didn't catch the last part of the answer. You were asked as to a certain state and you volunteered as to other states. The last part may be stricken.

The Witness: I will try to confine myself to the question.

Mr. Mason: Have you followed the practice of operating trains in excess of 70 cars in Nevada for several years?

A. A great, great many years.

Q. If you were relieved of the restriction of the Arizona law in one way or another would you undertake the operation of trains in excess of 70 cars or 14 cars as the case may be in Arizona?

Mr. Strouss: That is objected to as irrelevant and immaterial and calling for a conclusion.

Mr. Booth: I would like to be heard on that a moment.

The Court: Read the question please, Mr. Reporter.

(Question read by the Reporter).

[fol. 2018] Mr. Booth: The answer in this case contains a number of affirmations of our belief that the law is unconstitutional. We say that it impairs the free use of our facilities; we say that it is a burden on interstate commerce; we say it is an interference with interstate commerce and rely on the due process clause as taking our property without compensation. Now it matters not if all those allegations be true if the party making those charges is neither in a position nor has the desire to operate his property free from the restrictions of the law or to utilize his property in the manner forbidden by the law. In other words, if the defendant in this case were to come into court at the conclusion of the case and state to your Honor, even if this law should be repealed or if Congress should enact a national train limit law which would have the effect of superseding it, or if this law should be declared to be unconstitutional by the

final decree of a court of competent jurisdiction, we nevertheless would not operate trains in excess of 70 cars in Arizona, why the case would fail at once.

The Court: To shorten this up I think we better hear from Mr. Strouss on this.

Mr. Strouss: My position is simply this, what the answer [fol. 2019] alleges, as I have argued before, doesn't make the evidence admissible, but aside from that, if this law is in violation of the commerce clause that is a matter of proof by evidence and whether or not it is constitutional cannot depend in any way on what their operations would be if the law were not in effect. That is immaterial so far as the case before this Court is concerned. There is another phase of this of course. Mr. Dyer doesn't know what conditions will be, but regardless of the question of the law itself I think he will admit that the availability of traffic for one thing would affect the movement of trains and the train lengths, and whether they are going to operate trains if this law is in effect or not in effect depends to some extent upon the traffic and other factors.

The Court: The Court doesn't care to hear from you further, Mr. Booth. I will overrule the objection, he may answer. Read the question to the witness.

(Last question of Mr. Mason read by the Reporter).

A. We would, and at once.

[fol. 2020] The Court: In order that the Court's position may be clear, may I say, Mr. Strouss, that I quite agree with you that his answer to that question does not in any way affect the constitutionality of the law, but it does show what the defendant's attitude and intentions would be if they were successful in this litigation, and it is for that reason that I am admitting it.

Mr. Mason: Your Honor, if we have no intention of operating trains in excess of the limits of the law and would not do so, of course, we could hardly complain that the law is a burden on interstate commerce. It seems extraordinary that the State should come in here and prosecute us for a violation, an asserted violation of the law, and endeavor to maintain the law in effect, and yet not be interested at all in determining whether we intend to operate such trains in the future.

The Court: You may proceed.

Mr. Mason: To what extent would you undertake the operation of freight trains longer than seventy cars?

Mr. Strouss: Objected to as a conclusion as to what extent.

[fol. 2021] The Court: Yes, there are so many factors entering into that, Mr. Mason. Sustain the objection to the question as framed.

Mr. Mason: Would there be any reason because of present siding capacities which would limit the extent of the operation of freight trains of longer than seventy cars, Mr. Dyer?

A. There would not. That is, I say there would not; that would be in one direction.

Q. Would you undertake the operation of long trains; by that I mean trains longer than seventy cars in one or the other directions, but not in both?

A. Absolutely.

Mr. Strouss: May I have the record show my objection goes to this without repeating it?

The Court: Yes, the record may so show, and the objection is overruled.

Mr. Mason: Would you operate passenger trains of more than 14 passenger cars, as traffic might indicate?

A. We certainly would.

Q. Would you make any change in power assignments to the lines in Arizona?

A. We would; as we purchase heavier power it would naturally be transferred to the Arizona district.

[fol. 2022] Q: Would you undertake any program of siding or passing track extension?

A. We would in order that longer trains could be handled both directions.

Q. Would there be any changes in shops or roundhouse facilities in this territory?

A. Very little change, with the exception of the 126-foot turntable in Tucson and one in Yuma, and probably some slight alterations in our roundhouses to take care of the heavier power.

Q. You would make whatever changes were necessary to take care of the heavier power?

A. Absolutely.

Q. Mr. Dyer, are there in effect, to your knowledge, on the Southern Pacific any restrictions on the tonnage which

may be handled in trains by reason of contracts with the train-service brotherhoods?

A. There are no restrictions with the exception of Arizona as to the number of cars we handle in a train. There are no restrictions if the second engine is used in helper districts. I want to make this clear: We have what is known as helper districts, we can put one, two, three or half a dozen engines in a train, and help it up those heavy grades such as we have in the Sierra Nevada Mountains, the Cascade Mountains, and so forth. There is no penalty.

Mr. Strouss: Are you speaking of Arizona now?

A. Arizona is included. We have helper districts in Arizona.

Mr. Strouss: I understood the question to be "agreements as affecting Arizona."

Mr. Mason: I said the System.

Mr. Strouss: I didn't so understand it.

The Witness: I understood him to say on the System.

Mr. Mason: I did say System.

The Witness: Will you read my answer?

(The answer so far given by the witness was read by the reporter.)

The Court: Now, go ahead, Mr. Dyer, and finish your answer.

A. There is no penalty. However, if a second engine is used in a district where a helper engine is not permitted to be used on account of the number of cars in the train, then it would be necessary to pay double miles to the train crew. In other words, if the rating—

Mr. Strouss: Pardon me a minute. Is this a matter of agreement?

Mr. Mason: I referred to contractual agreements with the [fol. 2024] train service brotherhoods.

Mr. Strouss: I think we should have the agreements produced.

Mr. Mason: I have the agreements here.

The Witness (Continuing) In other words, if the rating of the heaviest engine operating in a non-helper district is exceeded and you use a second engine you must pay the crew double miles.



Mr. Mason: The brakeman and the conductor.

A. The brakeman and the conductor, but not the engineer or fireman. That is the reason the railroad as a whole is looking forward to the purchase of heavier power.

Q. Mr. Dyer, is there any main line territory on the System other than in Arizona where a restriction of freight train length to seventy cars is observed? I refer only to main lines.

A. There is none.

Q. Is there any statute in any of the states in which the Pacific Lines operate other than the State of Arizona, which limits the number of cars in a freight or passenger train, that is, that is now in effect?

A. None whatever.

Mr. Mason: That is all.

[fol. 2025] The Court: The court will be at recess until ten o'clock tomorrow morning.

(Thereupon, the court stood at recess until Thursday, January 9, 1941, at ten o'clock A. M.)

[fol. 2026]

January 9, 1941, Ten o'clock A. M.

Proceedings were resumed at this time as follows:

The Court: You may proceed. Are you ready with the cross-examination of Mr. Dyer, Mr. Strouss?

Mr. Strouss: Have you finished?

Mr. Mason: I have a question or two I should like to ask.

JOSEPH HENRY DYER was recalled to the stand, and testified further as follows:

Direct examination (Continued).

By Mr. Mason:

Q. Mr. Dyer, yesterday you stated that the company operates trains in excess of seventy cars in Nevada. I will ask you whether it operates freight trains in excess of seventy cars in other states in which the Pacific Lines are located other than the state of Arizona?

A. Yes, we operate trains in excess of seventy cars and up as high as 100 and 125 cars in New Mexico, California and Oregon.

Q. And Utah?

[fol. 2027] A. And Utah.

Q. Do such trains operate in that part of Texas where the Pacific Lines run?

A. Yes, but that is a very short mileage through Texas.

Q. Now, I will ask you the same as to operation of passenger trains in excess of fourteen cars; does that take place in Nevada and these other states other than Arizona?

A. That is true.

Mr. Mason: You may cross-examine, Mr. Strouss.

Mr. Strouss: I have no questions.

The Court: This witness then may be excused?

Mr. Strouss: Yes.

(Witness excused.)

W. H. Kirkbride was called as a witness on behalf of the defendant and, being first duly sworn, testified as follows:

Direct examination.

By Mr. Mason:

Q. Will you state your name to the reporter, please, Mr. Kirkbride?

A. W. H. Kirkbride.

Q. Where are your headquarters, Mr. Kirkbride?

[fol. 2028] A. San Francisco, California.

Q. Are you employed by the Southern Pacific Company?

A. I am.

Q. In what position?

A. Chief engineer of the Pacific Lines, also chief engineer of the Northwestern Pacific, the San Diego, Arizona Eastern, of the Southern Pacific, and chairman of the standardization committee of all the lines affecting engineering and maintenance standards.

The Court: Where are your headquarters, Mr. Kirkbride?

A. San Francisco.

Mr. Mason: The Northwestern Pacific and the San Diego Arizona Eastern are affiliated properties of the Southern Pacific, are they, Mr. Kirkbride?

A. They are.

Q. When you speak of the committee, standardizing committee for all Southern Pacific Lines, does that include the Texas and Louisiana Lines?

A. It does.

Q. When you group the Southern Pacific Lines, do you include also the Southern Pacific Railroad Company of Mexico?

[fol. 2029] A. I do.

Q. What has been your academic training and railroad experience, Mr. Kirkbride?

A. I am a civil engineer, graduate of Stanford University. My railroad experience covers a period of about forty-two years in location, construction, maintenance and operation. My time with the Southern Pacific Company dates from 1902, during which period I have occupied the positions of assistant engineer, roadmaster, assistant division engineer, division engineer, assistant superintendent, engineer of maintenance of way and structures, chief engineer, and during World War No. 1 when the United States took over the operation of railroads in the United States I was chief engineer for the United States Railroad Administration of the Pacific Lines of the Southern Pacific Company.

Q. As engineer of maintenance of way and structure, and chief engineer, have you had and do you have system-wide jurisdiction?

A. I do.

Q. And what are the duties and responsibilities of the chief engineer of the System?

A. To look after all construction work and maintenance of the property as the head of certain departments grouped [fol. 2030] under such organizations. For instance, as chief engineer there is consolidated under my jurisdiction not only the location and construction of new lines, but the maintenance of way and structures, and signal departments, electrical department, valuation department. It is our duty at the close of any year to prepare and submit to our executives two budgets, one representing the money that we think should be spent, or that we desire to spend during the coming year in the maintenance of the properties, involving such principal items as bridge and trestle

and culvert construction, laying of new rail, application of ballast, ties, repair and construction of depots and buildings, and the maintenance of the roadbed and track. Following the authorization of the budget, it is our duty to distribute the money to the various divisions of the System, to see that it is economically and properly spent and that authorities are issued from time to time covering the particular items.

Q. Is it correct to say, generally speaking, Mr. Kirkbridge, that the construction, reconstruction, maintenance and repair of the fixed properties, fixed physical properties of the Pacific Lines, comes under your jurisdiction?

[fol. 2031] A. That is correct.

Q. That includes the signals, does it?

A. Yes, sir.

Q. Bridges?

A. Yes, sir.

Q. Rail?

A. Yes, sir.

Q. Ties and roadbed?

A. Yes, sir.

Q. Buildings?

A. Yes, sir.

Q. And other miscellaneous fixed properties of the company?

A. Yes, sir.

Q. Does the engineer of maintenance of way and structures report to you?

A. He is one of my assistants; of course, he also reports to the general manager.

Q. He is one of the principal officers in your department, is he?

A. Yes, sir, he is.

Q. And each of the division engineers is under your jurisdiction?

A. In this way: The System is divided into divisional organizations, each division in charge of a superintendent. One of the officers of the superintendent, responsible to him [fol. 2032] for the maintenance of the property, bridges, buildings, track, etcetera, is the division engineer. We dictate and give instructions pertaining to all that kind of work through the superintendent. The division engineer is

looked upon as our engineering representative on the division.

Q. Now, as the System officer in charge of the engineering, maintenance and so forth, as you have described, have you become familiar with the entire physical plant of the Pacific Lines?

A. I have.

Q. Do you make trips over the lines from time to time?

A. I do; I am out on the road approximately one-half of my time.

Q. What duties do you undertake when you make these trips over the road?

A. To ride on the rear of trains and spend the entire day-light hours, as well as twilight hours, in the inspection of the track and that includes the right-of-way. We frequently stop at stations or terminals and make track motor-car trips in order to view some particular job under way, some bridge or some track condition, or to determine upon [fol. 2033] some method of correcting a run-off that might endanger the roadbed.

Q. How long since you became engineer of maintenance of way and structures, Mr. Kirkbride?

A. I was made engineer of maintenance of way and structures in 1920. That is at the time the government surrendered the railroads to the owners.

Q. And prior to that time you were the chief engineer under the Railroad Administration?

A. I was.

Q. For the same properties?

A. I was.

Q. And when did you become chief engineer?

A. 1932.

Q. Then you have been a System officer since the time of the United States Railroad Administration?

A. I have.

Q. 1918, approximately?

A. Yes, sir.

Q. Have you prepared or had prepared under your jurisdiction a map of a single sheet entitled "Southern Pacific Company, Pacific Lines, Operating Divisions?"

A. I have.

[fol. 2034] Mr. Mason: May this exhibit be marked with the next number in order?



The Clerk: Defendant's Exhibit No. 154 for identification.

Mr. Mason: You maintain, do you, in the engineering department, Mr. Kirkbride, maps of the System as a whole and by divisions?

A. We do.

Q. Was this map prepared from the original records and maps in your department?

A. It was.

Q. And will you say whether or not it is true and correct?

A. It is.

Mr. Mason: Now, I may say, Your Honor, that there has been made available to Mr. Strouss prior to the start of the trial the operating timetables for each of the divisions comprising the Pacific Lines; is that correct, Mr. Strouss?

Mr. Strouss: I have them right here.

Mr. Mason: And they are before him on the table, and each of those operating timetables, sometimes called employees' timetables, contains a map of the division to which it relates, and the accuracy of the exhibit identified as No. 154 can be checked from the timetables in Mr. Strouss' [fol. 2035] possession. Have you any questions, Mr. Strouss?

Mr. Strouss: This map is drawn to scale, is it?

A. Yes, sir, but it is a reproduction, and the scale is shown graphically so that the scale will be reduced in the same manner in which the rest of the map is reduced.

Q. What would that scale be; do you know?

A. Well, it shows approximately forty miles to a half inch.

Q. Did you mean that in photographing this there has been a reduction?

A. Yes.

Q. What would that reduction be on the scale?

A. I can't tell you. This is made from a master tracing.

Mr. Strouss: I think that is all.

Mr. Mason: The scale and the map are photographed?

A. Yes.

Q. So any reduction in the map is a corresponding reduction in the scale?

A. Yes, sir. For instance, if we had marked this "One inch equals 100 feet," it wouldn't give you the proper scale after photographing, but a person with a scale, after photographing, could relate any distance up here marked "scale in miles" to any portion of the map.

Mr. Mason: Will you say whether the map represents in substantially proper proportion, the lines of the Southern Pacific, and particularly represents correctly the boundaries of the several divisions?

A. It does.

Q. I call your attention to the map, Defendant's Exhibit No. 1, the enlarged copy of which appears on the easel. The map, Exhibit No. 154, is of the same lines but with the division boundaries included, is it not?

A. What was this exhibit?

Q. 154.

A. What was your question?

Q. Whether the map, Exhibit 154, is not a reproduction of the same lines of the Southern Pacific which appear on the easel map, Exhibit No. 1?

A. Yes, sir.

Mr. Mason: We offer the map in evidence as Defendant's Exhibit 154.

Mr. Strouss: No objection.

The Court: It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 154.")

[fol. 2037] Mr. Mason: Mr. Kirkbride, have you before you a statement in one sheet bearing title, "Southern Pacific Company, Condensed Profiles, El Paso Route"?

A. I have.

Mr. Mason: May we have this exhibit marked "Defendant's Exhibit No. 155" for identification?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 155 for identification.

Mr. Mason: Do you have in the engineering department profiles of the rail lines of the entire system of the Southern Pacific Company?

A. We do.

Q. Are those maintained there as permanent records?

A. They are.

Q. Referring to defendant's exhibit No. 155 for identification, was that exhibit prepared in the engineering department?

A. It was.

Q. Under your direction?

A. Yes, sir.

Q. From what sources?

A. From the records that are kept in our office dating back to original profiles with changes added and made from [fol. 2038] time to time as additional lines were constructed.

Q. Do your original records show the ruling grades, the elevation in feet, the points at which the grades change, and so forth as are indicated by the showing on exhibit No. 155 for identification?

A. They do.

Q. Will you say whether or not this exhibit correctly reproduces the information shown on the original records?

A. It does.

Q. I notice there are shown hereon, Los Angeles division, Tucson division, Rio Grande division, and so forth, and also California operation, Arizona operation, New Mexico operation. What is the significance of those particular designations?

A. We have previously referred to an exhibit that showed the various divisions of the Pacific system and these refer to the same subdivisions.

Q. Will you refer to exhibit No. 1, the map on the easel and point out which lines on that easel map are represented on exhibit No. 155 for identification?

A. The line extending from Los Angeles to El Paso and [fol. 2039] extending up from El Paso to Tucumcari and the line from Wellton, which is about 37 mile from Yuma, to Phoenix and around to the old line at Picacho and also extending from Tucson to El Paso via Douglas, as shown on exhibit No. 155.

Q. Does the showing on exhibit No. 155 for identification include any of the branch lines in the territory between Los Angeles and Tucumcari?

A. It does not.

Q. Does it include the alternate line in the Imperial Valley from Niland via El Centro?

A. It does not.

Q. And thence to the junction west of Yuma?

A. It does not.

Q. Does the showing on exhibit No. 155 include all of the main lines within the state of Arizona?

A. It does.

Q. And those are indicated by the appropriate legend and boundary marks on the face of the exhibit, are they?

A. Yes, sir.

Q. I note that at the lower left-hand side of the exhibit under the heading "Los Angeles Division, California Operation," between the stations of Indio and a point a short distance beyond Niland the profile line descends below what [fol. 2040] is apparently the base line of the exhibit. Otherwise the profile line is well above what is apparently the base line. What is the significance of that?

A. The railroad in the stretch that you referred to passes down into and out of the Colorado desert opposite Salton Sea. In other words, the track is about 202 feet below sea level.

Q. At what point?

A. At a place called Salton, it is indicated on this profile.

Q. The descent of profile line below the base line indicates the portion of the line which is below sea level?

A. It does.

Mr. Mason: Have you any questions on the exhibit, Mr. Strouss?

Mr. Strouss: No.

Mr. Mason: We offer the exhibit in evidence as defendant's exhibit No. 155.

Mr. Strouss: No objection.

The Court: It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 155.")

Mr. Mason: Mr. Kirkbride, I will ask you to refer now to an exhibit in one sheet bearing title, "Southern Pacific Company, Condensed Profile-Order Route." Have you [fol. 2041] that exhibit before you?

A. I have.

Mr. Mason: May we have the exhibit marked "No. 156" for identification?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 156 for identification.

Mr. Mason: Was exhibit No. 156 prepared by you or under your direction in your department, Mr. Kirkbride?

A. It was.

Q. From what sources?

A. From the original records, profiles kept in the office and kept up to date as changes or new lines were made from time to time.

Q. Was this exhibit prepared in the same manner as No. 155?

A. It was.

Q. And from the same type of records?

A. It was.

Q. Will you refer to the map, exhibit No. 1, on the easel and describe briefly the lines which are shown thereon and which are indicated on exhibit No. 156?

A. At the lower portion of the profile the profile conforms to the line that commences at San Francisco and [fol. 2042] passes to Redwood City and across San Francisco Bay and over the Altamont Summit, thence into the San Joaquin Valley at Tracy and through Stockton to Brighton, Elvas and over the Sierra Nevada, the summit of which is marked "Norden" and descending along the Truckee River to Sparks and then across the sinks of the Carson and up the Humboldt River across the state of Nevada to Wells and then over the Pequop Range and down into Montello and terminating at Ogden.

Q. I notice that the principal profile at the foot of the sheet shows a reference to the Western Pacific. Is that in the paired track territory in Nevada?

A. It is.

Q. Is this a profile of the Western Pacific line between the points shown?

A. The lower profile shown is the Western Pacific because that is used for eastward movement of trains.

Q. Southern Pacific trains?

A. Southern Pacific as well as Western Pacific trains.

Q. Just above the profile line of the Sacramento division you show a profile designated with the word "westward" [fol. 2043] between Roseville and Sparks. What does that indicate?



A. That is the second line construction that was carried out partially in 1907, 1913, and 1925, and it is used for westward movement of Southern Pacific trains.

Q. Is that in some parts of the district on a different alignment than the eastward track between the same points?

A. It is on a different alignment.

Q. Between the stations in Nevada shown in the lower portion of the exhibit to which the designation "Western Pacific" applies, you show also an alternate profile above. What does that indicate?

A. That represents the profile of the Southern Pacific extending from Alazon to Weso within the limits of the paired track.

Q. For what trains is that used?

A. That is used for the westward movements of trains.

Q. Are the Southern Pacific and Western Pacific rails on different alignments on part of the paired track territory?

A. They are on different alignments.

Q. You show also an alternate profile between Montello and Lucin at the foot of the sheet?

A. That likewise is second track construction extending [fol. 2044] from Lucin to Montello on an alignment different from the original line and used for westward movement of trains.

Q. What is the significance of the profile at the top of the sheet and to what part of the railroad shown on exhibit No. 1 does that refer?

A. Extending in a northwesterly direction from the main line at Fernley is a line that connects at Alturas. From Alturas it extends to Klamath Falls but this profile covers only the territory from Fernley to Alturas.

Q. Is that a part of the main line of the Salt Lake division?

A. It is.

Q. Does this exhibit show in the same fashion as No. 155 the boundaries of the states as well as the divisions to which the exhibit relates?

A. It does, yes, sir.

Q. Does this exhibit include all of the main lines in the states of Nevada and Utah over which the Southern Pacific trains operate?

A. It does.

Q. This exhibit and the preceding exhibit, No. 155, are both designated as "Condensed Profiles," Mr. Kirkbride. Does the fact that a profile is condensed tend to exaggerate [fol. 2045] the slope or inclination of the grade or line?

A. It greatly exaggerates the inclination because of the relationship between the horizontal and vertical scales. A condensed profile does not show the detail of profile or grade construction.

Q. Would it be possible upon a single sheet or any reasonable series of single sheets to show an exact profile of the line? How long would that sheet have to be?

A. It would take many sheets comprising large folios of profiles.

Q. Then I take it that where you have a condensed profile you use a different scale for elevation than you do for the horizontal difference?

A. Yes, sir.

Mr. Mason: Have you any questions Mr. Strauss?

Mr. Strauss: No.

Mr. Mason: Will you say whether or not exhibit No. 156 correctly reproduces the information appearing upon the original records?

A. It does.

Mr. Strauss: Just one question, you asked if there was a different scale. I notice the scale shown here, is that the horizontal or the vertical?

A. It is the horizontal.

[fol. 2046] Mr. Mason: The elevations are shown in feet, Mr. Kirkbride, are they not?

A. You will notice horizontal lines marked "1,000, 2,000, 3,000, 4,000, 5,000," as the case may be.

Q. Those indicate the vertical scale, do they?

A. Yes, sir.

Q. And the same would be true of exhibit No. 155?

A. Yes, sir.

Mr. Mason: We offer the exhibit in evidence as defendant's exhibit No. 156.

Mr. Strauss: It is objected to as irrelevant and immaterial.

The Court: Objection overruled, it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 156.")

Mr. Mason: From your knowledge of the Arizona lines and with such reference to the profiles as you desire, will you describe briefly the main lines of the Southern Pacific in Arizona?

A. Referring to exhibit No. 155 there are, with the exception of a 37-mile stretch from Yuma to Wellton and a 46-mile stretch from Picacho to Tucson, two separate and distinct railroad lines extending in a generally easterly and [fol. 2047] westerly direction across Arizona. Describing the line first built, known as the old original Southern Pacific, the general profile characteristics are, leaving Yuma at an elevation of 136 above sea level, the gradient is variable directly out of Yuma six-tenths per cent, flattening to lower grade lines. The route follows the mesa on the southerly side of the Gila River, the Gila River flowing westward and in a general way the road follows the Gila River eastward but departs from it as it gets further from Yuma. A ruling grade of one per cent obtains in this territory by reason of a small range of hills known as the Mohawk Mountains which are surmounted by means of a one per cent grade.

Q. Is that a comparatively short grade?

A. That is a very short grade, the elevation being 540 feet. A short descent is then made on a one per cent grade and then varying grades with finally a maximum of 1.02 to obtain the height of a higher mesa.

Q. At what point does that 1.02 grade apply?

A. This applies to the immediate ascent to Sentinel.

Q. Is that likewise a comparatively short distance?

[fol. 2048] A. It is, for instance, Mohawk is 60 miles from Yuma and Sentinel is about 30 miles further. The profile then is a relatively flat grade not exceeding six-tenths per cent to Gila, which is 123 miles from Yuma and at an elevation of 736 feet. A climb is then made over the Maricopa Mountains, the summit being marked "Estrella," the elevation of which is 1,520 feet and the distance from Yuma, 142 miles. For 23 miles a descent is made on a .83 per cent to the general vicinity of Maricopa, which is in the lower basin of the Santa Cruz River, the elevation being 1,172, and Maricopa being 165 miles from Yuma. The line then follows upward along the Santa Cruz River for a distance

of 86 miles to Tucson, which is at an elevation of 2,386 feet, the distance from Tucson to Yuma being 251 miles. The line then ascends to Whetstone Mountains in a distance of 40 miles, the summit being at Mescal with an elevation of 4,062 feet. A descent is then made in 8 miles to Benson with a crossing of the San Pedro River on a 1.4 per cent. I should add that the maximum gradient eastward between Tucson and Mescal is 1.06 per cent.

Q. That is the ruling grade in that territory?

A. Ruling grade, yes, sir.

[fol. 2049] Q. That is not a continuous grade, is it?

A. It is not a continuous grade.

Q. You spoke of the 1.4 grade descending Mescal to Benson and the crossing of the San Pedro River at Benson. What is the nature of the line from Benson eastward?

A. A climb is then made on a ruling grade of 1.4 flattening to one percent to surmount the Dragoon Mountains, the crossing being made at Dragoon with an elevation of 4,613 feet, and Dragoon is 70 miles from Tucson. The descent eastward is then made on a 1.1 per cent grade into the Sulphur Springs Valley, which is crossed and designated on the profile, the easterly end of which is Willcox. The general level of this plateau, Sulphur Springs Valley, is 4,150 feet. It is then necessary to climb the Dos Cabezas range, using a ruling grade of .91 and a crossing is made at Raso, elevation 4,380, 99 miles from Tucson. From Raso a descent is made into the San Simon Valley, which is at a general elevation of 3,600 feet by a ruling grade of one per cent, this valley being shown between the point Bowie and San Simon. Leaving San Simon, the Peloncilla range is surmounted by the use of ruling grade of 1.4 per cent, the summit being at Steins, elevation 4,345 and 143 miles from [fol. 2050] Tucson. The descent is then made into another valley by similar ruling grade of 1.4 per cent and on to Lordsburg, but 3.8 miles westward from Steins the state line of Arizona and New Mexico is crossed.

Q. I am going to ask you to refer to the line from Wellton via Phoenix to Pizacho. When was that line constructed?

A. 1924, 1925, and 1926.

Q. Did part of it exist prior to that time?

A. Some of the line existed out of Phoenix known as the "Arizona Eastern."

Q. Was it all reconstructed?

A. It was reconstructed.

Q. Brought up to the same standard as the new construction?

A. It was.

Q. Will you describe now that line briefly?

A. Commencing at a point Wellton, 37 miles east of Yuma, the line drops down to a crossing of the Gila River, a steel bridge being used. A varying grade system then exists, the ruling grade becoming one per cent to overcome the Gila Bend Mountains, the crossing being made at Harque. A varying grade system is then used to Phoenix, the ruling grade being six-tenths. The summit of the hill at [fol. 2051] Harque is elevation 1,078 and it is 117 miles from Yuma and the elevation of Phoenix is 1,079, 173 miles from Yuma. The same grade system prevails leaving Phoenix and crossing the Salt River at Tempe and continues on to a connection with the line previously described at Picacho, the ruling grade being six-tenths per cent, there being stretches of much flatter grade in between.

[fol. 2052] Q. You have spoken of ruling grades, of course, but are there on all parts of this line you have described, generally speaking, stretches of flatter grade?

A. There are stretches of level grade in each grade system ranging from no per cent up to the six tenths or five tenths, or one per cent, as stated.

Q. Now you also show on the profile, and I would like to have you now describe the line from Tucson via Douglas to the state line.

A. The line out of Tucson via Douglas, as previously stated, is a separate line from the old line; that is, it is not exactly parallel. The profile of the system develops up the westerly slope of the Whetstone Mountains on an almost continuously supported grade of one per cent; at Mescal Summit the line crosses over the Southern Pacific Line previously described and a descent is then made on a 3 per cent grade to Fairbank, a crossing of the San Pedro river.

Q. Just a moment, Mr. Kirkbride. I want to ask you if the line from Tucson to Mescal which you have just described, the former El Paso and Southwestern, is that part of the line shown on the profile, Exhibit 155, designated as [fol. 2053] "Track No. 1, westward."

A. It is.



Q. Is that the line that is used for all westward trains between Mescal and Tucson?

A. It is used for westward movement of trains; it can be used by reason of the signal system for eastward movement.

Q. Normally, it is the westward movement?

A. Normally, it is the westward track.

Mr. Strouss: May I ask, is that the reason for the note at the bottom, "Providing trains are operated eastward?"

A. Yes, sir.

Mr. Mason: That is to say that one per cent becomes the ruling grade if trains are operated eastward in that territory; is that the understanding?

Mr. Strouss: Yes.

Mr. Mason: Proceeding eastward then from Fairbanks, Mr. Kirkbride?

A. Well, the crossing of the San Pedro river at Fairbank is at an elevation of 3,851 feet, and 62 miles from Tucson; the line then follows along the San Pedro river for a number of miles at a relatively flat grade, and then an ascent of the Barro mountain is obtained by the use of a one per [fol 2054] cent ruling grade; the summit being at Bisbee Junction, the elevation being 4,679, and the distance from Tucson 99 miles; a line then descends to Douglas on a grade system of less than one per cent, although there is a ruling grade of one per cent in there, Douglas being at elevation of 3,968, and 123 miles from Tucson; a climb is then made out of Douglas over certain ranges of hills, the grade varying, but the ruling grade being one per cent. At Rodeo the state line is crossed.

Q. Does the line continue on into El Paso with ruling grades or not to exceed one per cent?

A. That is true; the line then continues over various low hill summits with alternately descending and ascending grades ranging from .79 per cent to one per cent, and into El Paso, where we have an elevation of 3,749 feet, which is 339 miles from Tucson.

(The Court: We will take our mid-morning recess at this time.)

(Thereupon, a short recess was taken, after which the witness was recalled and proceedings were resumed as follows:)

The Court: You may proceed.

Mr. Mason: Mr. Kirkbride, in your description which [fol. 2055] you have just completed of the main lines in Arizona, you have referred a number of times to the ruling grades. Now, I will ask you whether those ruling grades are, generally speaking, continuous grades, or whether they prevail for comparatively short distances, with substantial distances of grades much less severe.

A. They are short grades and not continuous, long stretches of level or lesser grade prevailing between points.

Q. Are the lines in Arizona lines of continuous curvature or with considerable tangent tracks?

A. Long tangents and very flat curves are characteristic of the alignment.

Q. The term "tangent" is an engineering term meaning straight track, is it?

A. Tangent is a straight track.

Q. Now, have you an example of a long stretch of tangent track in Arizona?

A. From a point six or seven miles west of Maricope and extending to within a few miles of Picacho the track is tangent except for two ten-minute curves, one of the tangents being of the order of forty-eight miles in length.

Q. You say a ten-minute curve. Is that a very slight [fol. 2056] curve?

A. That is a very slight curve, and from all practical points of view is considered tangent track.

Q. Do you have long tangents on the line between Wellton and Picacho via Phoenix as well?

A. Similar long tangents exist, and between Tempe and Picacho.

Q. Now, will you refer to Exhibit No. 156, and from that exhibit and from your own knowledge of the line in Nevada and Utah, will you supply for the record a description of those lines similar to the description which you have just given of the lines in Arizona?

A. Generally speaking, the Sierra Nevada range of mountains forms the westerly boundary of the state of Nevada,

and as affecting the railroad, the descent is made off of the summit of the Sierras by 1.8 per cent.

Mr. Strouss: My objection, if the Court please, to the exhibit goes to this testimony.

The Court: Yes, and the objection is overruled.

The Witness (Continuing): Changing to a one per cent in the general vicinity of Truckee. The line follows down [fol. 2057] the Truckee river to Floriston, the state line between California and Nevada being about midway between Truckee and Floriston.

Mr. Mason: Isn't the line a little east of Floriston?

A: I should say east of Floriston, but the gradient is a one per cent. There are two lines in there and we are now describing the eastern line. The one per cent prevails until we come to Sparks, which is 246 miles from San Francisco; the Truckee river is followed on flat grades, ranging from level grade to .4 per cent to the sink formed by the Carson and Humboldt rivers, this being in the general vicinity of the point marked "Huxley," 316 miles from San Francisco, the general elevation being 3,897; the gradient then ascends on .5 and .4 per cent to Inlay, and continues on to Winnemucca. About three and a-half miles east of Winnemucca the connection with the Western Pacific is made at a place marked "Weso."

The Court: That is where you use the common track?

A: That is the commencement of the paired track territory, and the ruling grade is .4 to Carlin, which is 534 from [fol. 2058] San Francisco, and the grade of the line then begins to increase until a point is reached at Alazon, where the paired track ends, that is, it is the easterly end of the paired track, and the profile from there represents the Southern Pacific line to Wells, where the Pequop Mountains are surmounted by a ruling grade of 1.5 per cent.

Q: Is that practically a continuous grade from Wells to Moor?

A: Practically so. 1.5 per cent for about nine miles. The Pequops form a high plateau of a general elevation of 6,200 feet, and the line passes over this plateau on a ruling grade of .4 per cent to Valley Pass, elevation 6,072 feet. A descent is then made on a descending grade of 1.4 per cent ruling and a distance of 21 miles to Montello, which is

662 miles from San Francisco, and a .2 per cent grade exists for some distance.

Q. You are describing the eastward track now?

A. I am describing the profile at the bottom of the sheet, which is the eastward track; a descent being made into the general territory known as the Salt Lake Desert and passing through Lemay, Strong Knob and Midlake to Ogden, which is an elevation of 4,300 feet. The line leaves the state of Nevada and enters Utah about 3.8 miles west [fol. 2059] of Alazon.

Q. Does the line cross the Great Salt Lake in the territory west of Ogden, as shown on the profile?

A. The mid-point of the crossing of the Great Salt Lake is designated on this profile as Midlake.

The Court: Well, is that across what is known as the Lucin Cut-off?

A. The Lucin Cut-off extends from Lucin to Ogden, a distance of about a hundred and two miles, and in that territory thirty miles represents the crossing of the Great Salt Lake, and contained in that thirty miles is a long trestle eleven miles in length, Midlake being a station at about the mid-point of that trestle.

Mr. Mason: Now, what are the westward ruling grades in the territory you have just described?

A. By referring to the profile marked "westward" and immediately above the words "Western Pacific" the profile commences at a point marked "Alazon," the descending grade being in the nature of .4 per cent, .5 per cent, leveling off to .4 per cent, and then changing to ruling grade of .64 per cent.

[fol. 2060] Q. This line between Wells and Lovelock on both railroads in the paired track territory lies generally along the Humboldt River?

A. That is true, the Humboldt River extending—the origin, the head waters of the Humboldt River being at Wells and the water disappearing in a common sink with the Carson River in the general vicinity marked "Huxley."

Q. Now, you show here in alternate profile Lucin to Montello with 1.4 per cent. Does that indicate a maximum western ruling grade of 1.4 from Lucin to Montello?

A. That is true.

Q. And the western ruling grade between Sparks and the state line near Floriston, is that the 1.1 or 1.6 that is shown in the upper profile near the center of the sheet?

A. There is a 1.6 per cent grade out of Sparks, then the Truckee River is followed to Truckee on a 1.1 per cent.

Q. Now, is there continuous curvature on these lines in Nevada and Utah, or are there substantial distances of tangent track?

A. There are long stretches of tangent track and flat curves ranging from no degrees and thirty minutes to four [fol. 2061] degrees, with a few six degree curves.

The Court: Well, Mr. Kirkbride, the route that you have described here from San Francisco to Ogden, generally speaking, is a much more mountainous route than anything you encounter across the State of Arizona?

A. It is mountainous in this respect that there are two high mountain ranges, the Sierra and then the Pequops, and the entire territory is at a higher elevation, namely ranging from 4000 to over 6000 feet.

Mr. Mason: Isn't it also a fact, Mr. Kirkbride, that the mountains, the severest mountains on this route, are those in California; that there are no severe mountain ranges in Nevada or Utah?

A. Not within the state of Nevada or Utah. The Wasatch high range exists east of our property at Ogden.

Q. No, in respect to tangent track and curvature from the Nevada state line eastward, is the situation in Nevada and Utah substantially the same as you have described in Arizona?

Mr. Strouss: Now, I object to that as calling for the conclusion of the witness. The exhibits are before the Court, [fol. 2062] and if there is any evidence as to what the curves are, the degrees of curve, that may be put in, but the question of comparison is a matter for the Court to determine from the evidence.

The Court: Well, Mr. Strouss, it occurs to the Court that in a matter of this magnitude, a matter involving the operation of railroads, with which this Court is not familiar, that this opinion evidence put in within proper limits, might be helpful to the Court. I will overrule the objection to the question. He has now a factual basis on which to offer an opinion; we didn't have that yesterday.



Mr. Strouss: Well, only to the extent that he himself, an interested witness by reason of his employment by the defendant, has in a general way described the territory so far as curves and tangents are concerned. He has referred to the exhibit which is already in evidence, so far as grades are concerned. Now, the exhibit speaks for itself, so far as grades as concerned; I submit, anyone can look at that and see what the comparison is, as to grades.

Mr. Mason: I wish that the question might be read.

(Thereupon, Mr. Mason's last question was read by the [fol. 2063] reporter.)

A. They are.

Mr. Strouss: My objection is, of course, renewed to that.

The Court: Yes.

Mr. Strouss: It calls for a conclusion and a comparison.

The Court: It does call for a conclusion, and an expert witness such as this, where it will be helpful is entitled to give that conclusion. The objection is overruled; the answer may stand.

Mr. Mason: Now, referring to the line between Sparks and Ogden, all of which is in Nevada and Utah, as shown by your exhibit, Mr. Kirkbride, and the line between Yuma and El Paso, all of which is in Arizona and New Mexico, as shown by your other exhibit, will you state, first of all, what is the total road mileage between Sparks and Ogden eastward?

A. 531.2 miles.

Q. And what is the total mileage between Sparks and Ogden westward?

A. 536.8 miles.

Q. And what is the total miles of curved track westward between Sparks and Ogden?

A. There is 102.5 miles.

[fol. 2064] Q. Is that eastward or westward?

A. That is eastward.

Q. Now, between Sparks and Ogden westward, what is the total mileage of curved track?

A. 116.8 miles.

Q. Now, taking the route between Yuma and El Paso via Gila, Tucson, and Lordsburg, what is the eastward mileage?

A. 563.7 miles.

Q. And what is the westward mileage between those two points over that same route?

A. 562.8 miles.

Q. And what is the total mileage of curved track eastward between Yuma and El Paso via Gila, Tucson and Lordsburg?

A. The curved track, ranging from no degrees of curvature to six degrees, amounts eastward to 79.4 miles, but the curvature over six degrees is 5.5 miles.

Q. Now, without particularizing as between curvature up to six and over six, what is the total of the curved track westward between Yuma and El Paso?

A. 84.3 miles.

Q. Now, what is the mileage of the Phoenix line, Wellton to Peach?

[fol. 2067] A. 209 miles.

Q. And what is the total amount of curved track in the Phoenix line?

A. 18.5 miles.

Q. And the mileage over the south line between Mescal, Arizona, and Anapra, New Mexico?

A. 51.7 miles.

Q. That is the line from Mescal via Douglas up to the Junction point?

A. It is.

Q. What was the figure you gave?

A. 51.7 miles.

Q. Of curved track?

A. Yes, sir.

Q. What is the total mileage?

A. 295.3 miles.

Q. Mr. Kirkbride, does the company prescribe a maximum authorized speed for freight trains moving over its lines with regular freight equipment?

A. It does.

Q. What is that maximum authorized speed?

A. 35 miles.

The Court: Pardon me just a minute. You are speaking now of its general lines—

Mr. Mason: Yes.

[fol. 2066] The Court: Not limiting it to any particular state.

Mr. Mason: I will bring that out later.

The Witness: 35 miles an hour, and in some cases 40 miles an hour.

Mr. Mason: Does that maximum limitation apply in Nevada?

A. It does.

Q. Utah?

A. Yes.

Q. Does it likewise apply in Arizona?

A. It does.

Q. And New Mexico?

A. Yes.

Q. Is there any different maximum speed authorized on the lines, whether in Arizona, New Mexico, Nevada or Utah, because of 85 or 90-pound rail in the track in one locality as compared with 110-pound in another locality, referring only to freight trains?

A. There is no speed restriction, 35 and 40 miles being authorized over such weights of rail.

Q. The same maximum speed is authorized whether the rail be 85 pound or 110-pound?

A. That is true.

Q. Does the same apply if the rail is 130-pound?

[fol. 2067.] A. That is true.

The Court: Then do I understand, from your testimony, that you have a rule on your railroad in all of the states named, including Arizona, that prohibits the engineer running a freight train at a maximum speed in excess of forty miles an hour?

A. The authorized speed. That is true, except that there is a certain tolerance permitted of five miles in case an engineer was found to be slightly exceeding forty miles.

Mr. Mason: Is that tolerance permitted for the purpose of making schedule or merely for the purpose of discipline?

A. I understand it is for discipline.

Q. Does any such tolerance appear in the time-tables?

A. No, sir.

The Court: Might the word "latitude" be another term for this which you call tolerance?

A. Yes, sir.

The Court: Given that much latitude, the authorized speed is not to be over forty miles an hour in the territory specified; other territories it would be 35 miles an hour.

(No answer.)

[fol. 2068] Mr. Mason: Now, Mr. Kirkbride, is the same latitude or tolerance permitted whether the track on which the speed is made is 130-pound rail or 85-pound rail, or anything between?

A. The same tolerance is permitted. In other words, the track hasn't anything to do with it.

The Court: When you say that the track has nothing to do with it, you mean by that that you consider all of your tracks sufficiently stable that you are able to operate at the maximum speeds that you have indicated?

A. All of our main line tracks.

Mr. Mason: Mr. Kirkbride, are you familiar with the term "axle weight," or weight per axle, as used in connection with rolling equipment, particular locomotives?

A. I am.

[fol. 2069] Mr. Mason:

Q. Mr. Kirkbride, can you determine the axle weight of the locomotive given the weight on drivers and the number of driving axles?

A. I can.

Q. That is to say, you can at least determine the average weight per axle?

A. Yes, sir.

Q. From the standpoint of the weight of the rolling equipment as it passes over the rails or the roadbed or the bridges and may affect them, is the axle weight of the locomotive or the cars in the train of any significance, and, if so, what is the significance?

A. The weight and axle loading of the locomotive is controlling. If a track or structure will take a locomotive, it will take any of the cars behind the locomotive.

Q. Is the track so designed to bear the weight of the axle loading of the locomotives?

A. It is.

Q. Are the bridges and other structures similarly so designed?

A. They are so designed.

Q. Will you please refer to exhibit No. 5 introduced by Mr. Russell and by reference to the tabulation on the right [fol. 2070] hand side of the exhibit will you compute the

average axle load, so-called of the Southern Pacific type locomotive referred to on that exhibit?

A. The axle loading is 63,400 pounds.

Q. How do you arrive at that figure?

A. The total weight of the locomotive on the drivers is 317,000 pounds. There are five drivers, hence if we divide by five, the result is 63,400.

Q. You say that there are five drivers, you mean five driving axles?

A. Yes.

Q. Ten drivers as indicated by the nominal classification of 4-10-2?

A. Yes, air, wheels.

Q. Will you from the same exhibit calculate the average axle loading of the Articulated Consolidation locomotive AC-8, which is shown next to the last in the tabulation?

A. 66,462.

Q. 66,400 pounds approximately?

A. Yes, sir.

Q. Was that obtained in the same way, by dividing the indicated figure of weight on drivers by the number of axles?

A. It was. 531,700 total weight on driving axles and [fol. 2071] there are eight axles, so dividing by eight we get 66,460.

Q. Are the Southern Pacific type locomotives shown on exhibit No. 5 regularly operated in freight service on the Tucson division?

A. They are.

Q. Between what points?

A. Lordsburg and El Paso.

Q. On the Tucson division?

A. Tucson to Lordsburg.

Q. Are they operated over the double track between Tucson and Mescal in both directions?

A. They are.

Q. Have Articulated Consolidation locomotives of the AC-8 class ever been operated in freight service on the Tucson division?

A. I can't answer that question. They were operated at the beginning of the year in an experimental way. I can't state as to the continuous operation of them.

Mr. Strouss: Beginning of what year?

A. 1940.



Mr. Mason: Does the company operate the AC-8 class locomotive with the cab in front and the AC-4 with the cab in front referred to on exhibit No. 5 in regular freight service on the Los Angeles division?

A. That is correct, between Los Angeles, Burbank and Mohave/Bakersfield.

Q. That includes a portion of the San Joaquin division, does it?

A. It does.

Q. Are they operated between Roseville and points in Oregon?

A. They operate from Roseville to Gerber up to the Sacramento Valley and from Gerber to Klamath Falls and on over the Cascade Mountains down to Klamath Falls, Oregon.

Q. On this road between Los Angeles and Bakersfield, what is the approximate distance in miles?

A. It is over 200 miles.

Mr. Mason: Do you mind, Mr. Strouss, if the witness refers to a timetable?

The Witness: I believe it is 167 miles.

Mr. Mason: In that extent of 167 miles, Mr. Kirkbride, is there any 90-pound rail in the track over which these locomotives operate?

A. There are very considerable stretches of 90-pound rail.

Q. About how much mileage altogether?

A. I would say about 60 miles.

Q. On the district between Roseville and Gerber, California, over which these AC locomotives operate, is there any 90-pound rail in the track?

A. There is.

Q. Can you state the approximate mileage between Roseville and Gerber and the approximate proportion of that which is 90-pound rail?

A. I think it is about 110 miles and I would judge that three-quarters of that mileage is 90-pound rail.

Q. On the west side of the Sacramento River between Davis and Gerber do these locomotives operate in that territory as well?

A. I don't know.

Q. In the territory between Lordsburg and El Paso over which you stated the five thousand class locomotive operates, is there any 85 or 90-pound rail in that territory?

A. There is quite a considerable amount of 85 and 90-pound rail.

Q. Where is the 85?

A. The 85 on the former E. P. & S. W. line out of Tucson extends to Mescal and then on to Douglas in stretches.

Q. Between Lordsburg and Tucson it is on the westward track from Mescal to Tucson, is it?

A. Yes, sir.

[fol. 2074] Q. There is 85-pound as well as other weight of rail in that section?

A. What is the question?

Q. Is there 85-pound as well as other weight of rail in that section?

A. Yes, sir.

Q. Between Mescal and Lordsburg via Bowte is there 90-pound rail in part of that track?

A. There is 90-pound rail.

Q. Have you made any study of the effect upon the rail in the track of the operation of these Southern Pacific type and AC type locomotives in the territories to which you have referred?

A. I have.

Q. Will you state what effects or results have been observed?

A. We test the sufficiency of any rail section as to strength by calculating the fiber stress in the base of the rail set up by any particular locomotive operating at certain designated speeds, and we then permit the operating department to operate their locomotives conforming to the allowed limits of stress in the rail. Our calculations show that the 90-pound as well as the 85-pound rail to be of sufficient strength for the locomotives that are being operated over the railroad.

[fol. 2075] Q. Do you by inspection or other means confirm the results of your calculations as to these particular stretches of rail?

A. We are constantly inspecting track in connection with the maintenance and studying the effect of wheel loads thereon.

Q. Do you employ any particular type of apparatus for that purpose?

A. For testing the rail?

Q. Yes, and inspecting for any defects which may be the result of the locomotive operation.

A. Our system basically gets back to the section foreman who is in responsible charge of a designated section, say, ten miles, and he is in daily contact with the section, observing the condition of the track with particular reference to the rail, thus noting any characteristics of failures or defects that may be indicating themselves. From time to time the road master would instruct the section foreman to put on a special patrolman for that purpose and some of the special patrolmen that we have are designated as "Sands mirror inspectors." In other words, it is very difficult for a man to look under the ball of the rail, but by having a small device whereby a mirror of strong magnifying power is supported on wheels, the operator [fol. 2076] shoves the device along the top of the rail and by glancing in the mirror he sees the true condition of the underside of the ball. Obviously he himself can see the condition of other parts of the rail. Further, he has the benefit of signals because any break in the rail structure immediately sets the signal at "Stop" so that the track man as well as the signal maintainer is able to have immediate indication of a defect such as a broken rail because of the signal being at "Stop" with no other apparent cause for it. An inspection being made of the distance between the signals will show up the broken rail if it exists. We further amplify that inspection by the operation of a Sperry detector which is in constant operation over our system, where by reason of a drop in the potential—basically speaking, the application of magnetism and electricity—we are able to record on moving sheets of paper any internal defect that exists in the rail, and if a rail is developing an internal defect such defect is caught by the detector car apparatus and if an examination of that rail at that particular point proves the defect there, even though the rail is not broken, the rail is immediately removed from track, a section gang following along behind the detector car so [fol. 2077] that they may be available for the purpose of removing the defective rail.

Q. Using all of these methods of inspection and detection of rail defects, will you say whether or not in 90-pound and 85-pound sections over which these heavy locomotives referred to in your testimony have been and are now being operated, the result is to develop any higher or greater fre-

quency of defects in the rail than in other territory where greater weights of rail are in tracks.

A. It is hard to distinguish between 85 and 90-pound and greater weights of rail with reference to defect and failure because such failures originate by reason of defects in manufacture, and the weight of the rail has little relationship to it.

Q. Broadly speaking, do you have any more rail trouble in the 85 and 90-pound sections over which these heavy locomotives operate by reason of the operation of those locomotives than you do in other sections?

A. We have little trouble from the 85-pound rail.

Q. I am addressing my question now to defects in the [fol. 2078] rail which arise by reason of the operation of these locomotives over that rail. Do you have any more in the 85 and 90-pound sections than you do in the other sections?

A. I would say there is little difference.

The Court: Mr. Kirkbride, how frequently do you operate these detector cars over your line?

A. We have one detector car that operates continuously and we also hire or rent the services of another car from the Sperry Company, the result being that we cover our property so that any particular mile is inspected at intervals of six months or eight months. In some cases, the inspection will be only a few months apart but the average will be six or eight months.

The Court: The court will be at recess until two o'clock P. M.

(Thereupon the court stood at recess until two o'clock P. M., January 9, 1941.)

[fol. 2079]

2 P. M., January 9, 1941.

All parties being present as heretofore noted, proceedings were resumed as follows:

W. H. Kirkbride resumed the witness stand.

Mr. Mason: At the noon recess, Mr. Kirkbride, you were referring to the operation of the detector car. Do you use the detector car in Nevada, as well as in Arizona?

A. We do.

Q. Do you use those other methods of rail and track inspection that you have described in Nevada as well as in Arizona?

A. We do.

Q. And on all other parts of the system?

A. It is common practice on all other parts of the system.

Q. What factor determines the length of the time that rails are to remain in main line track?

A. Tonnage life is one of the controlling factors so far as tangent track and light curved track is concerned. On curves of our mountain grades the controlling factor is the amount of metal that we permit to be worn off the ball of the rail. In the latter case we have certain curve worn templates [fol. 2080] plate standards set up and before the curve is changed out a scribing machine is used to determine the amount of metal worn away from the ball, and if the rail is approaching the limit of wear then the rail is programmed for renewal. On tangent track the basic factor is the tonnage life, that is, the number of gross tons that the rail will handle during a period of, say, twenty or thirty years.

Q. The tonnage life of the rail is the amount of gross tonnage that passes over it from the time it is placed in the track until it is withdrawn is that correct?

A. That is correct.

Q. Do you have certain tonnage limits to which you work in determining when rail is to be replaced in main track?

A. We have certain tonnage limits that are used as a guide upon which to make critical examinations of the rail. When a rail begins to approach its tonnage life, there are certain physical characteristics which begin to show up like a worn condition on the top of the rail, so called "black spots," fillet cracks in the ball and that condition is determined by physical examination.

The Court: I presume every new rail that is placed on [fol. 2081] the roadbed is stamped with the year it is installed?

A. It is stamped with the year that it was rolled, not the year of installation. The manufacturer's brand is on the rail, the weight and section of the rail is stamped and the heat number. That is to say, there are a certain number of rails that will come out of a heat from the furnaces, open hearth furnaces, and a record is made of that by the



inspectors as the rail goes through the mill. We keep a perfect record of the number of rails in a heat and then we keep a record of the performance of the individual heats.

Mr. Mason: Do you also keep a permanent record of the year and day when the rail is placed in the track?

A. We keep a permanent record of the time of laying the rail.

Q. Do you also keep a record of the gross tonnage passing over that rail from and after the date of its laying?

A. We do, we keep a cumulative record of the tonnage so that at any time within a year the tonnage life of that rail may be known.

The Court: I take it from your testimony that that tonnage isn't down to an exact science, that is, it wouldn't be [fol. 2082] true in every instance that after so many tons had passed over that rail that the rail would be ready to be cast aside?

A. It is only a guide.

The Court: It is only a guide, not an exact science?

A. Not an exact science or rule.

The Court: Is there a deterioration in these rails between the time that they come from the mill and the time that they may be installed on the road, say after a year or so elapses?

A. No deterioration.

Mr. Mason: Mr. Kirkbride, does the mere age of the rail, apart from the tonnage passing over it, have any particular effect upon its usefulness?

A. The age has no effect. To illustrate the point, you might lay a certain section of rail in a branch line where climatic conditions were dry and the tonnage over that branch line was very light and the rail at the end of fifty years would be practically as good as when it was laid, whereas on a main line where the gross tons moving over the rail was large as compared to the branch, the rail would last only, say, twenty years, or less or more.

Q. Do climatic conditions have any effect upon the life [fol. 2083] of rail?

A. They do. We find that the rail laid along the Pacific Ocean on our coast line between San Francisco and Ventura is subject to corrosive attack by reason of the sea breezes. A similar condition existed in the tunnels, there

being some 37½ miles of tunnels on the Pacific lines, and we find that the gases ejected from the locomotive stacks combine with the moisture in the air within the tunnel, which in turn creates a vapor or moisture that settles on the rail, and a very corrosive condition develops whereby we get only possibly one-third of the life of rail in those tunnels as compared to the rail immediately outside in the open air.

Q. Are there any tunnel conditions or salt air conditions in Arizona which have any substantial effect on the life of rail?

A. There are no such conditions in Arizona and none in Nevada.

Q. Are there in Utah?

A. In Utah by reason of the Great Salt Lake.

The Court: What would be the average life of your rails, say, on your main line in Arizona?

A. There again a question of tonnage enters into it, but twenty—

[fol. 2084] Mr. Strouss: (Interrupting) You are speaking about what weight of rail now?

A. We would get a life of twenty to twenty-five years from the 90-pound rail.

Mr. Mason: That is on the main freight line?

A. Yes. For instance, we now have rail that is twenty years old in the 85-pound rail on the E. P. & S. W. which was laid in 1912.

The Court: Would the 110 and 130-pound rails last correspondingly longer?

A. If you assume the tonnage to level off and be similar and not to increase, then we would get a proportionately greater life.

The Court: That is merely an expectation by reason of the fact that as yet any such rails have not been in use over that length of time?

A. We haven't had the 110 and 130 and 131-pound rail in use long enough to definitely say what life we are going to obtain from such weights of rail.

The Court: One other question, when you speak of the ball of the rail, you mean, I take it, the top of the rail, where the wheels from the passing cars go on?

A. That is correct.

[fol. 2085] Mr. Mason: Now, Mr. Kirkbride, let us assume a train of 125 freight cars being handled by an AC Class locomotive such as is shown on Exhibit No. 5, and restricted to the speed of 35 to 40 miles an hour, which you mentioned, and a passenger train; let us say, of ten cars being handled by a mountain type locomotive of the type shown on Exhibit No. 6, and moving at allowed passenger train speed. By the way, what are the allowed passenger train speeds for Mountain type locomotives on main lines?

A. Sixty-five miles an hour, except that on the Coast lines between Los Angeles and San Francisco, we operate at seventy-five miles an hour.

Q. Now, assume this ten-car passenger train with Mountain type locomotives, Mt-1 Class, moving at the maximum speed of 65 miles per hour, which of those two trains would require the heavier rail?

A. Well, the passenger locomotive.

Q. Would the requirement be influenced at all by the number of cars behind the locomotive?

A. The cars behind the locomotive is not a factor.

Q. Why would there be a requirement of heavier rail for [fol. 2086] the passenger locomotive at the higher speed than for the freight locomotive at the lower speed?

A. Because the passenger locomotive operates at a greater speed than the freight locomotive.

Q. Now, as between the AC locomotive and the Mountain type locomotive, Exhibit No. 5 indicates that the AC locomotive, if of the AC-8 Class, would have a weight on drivers of approximately 532,000 pounds, where as the Mountain type locomotive would have a weight on drivers of 246,000 pounds, or approximately one half. Do I understand, then, that the lighter locomotive handling the passenger train would, nevertheless, require the heavier rail because of the higher speed?

A. That is correct; by reason of the following basic factors: The stress in the rail is the function of speed, the axle load conveyed to the rail by the individual drivers and the reciprocating parts, and the question of whether or not the locomotive is properly counterbalanced. The dynamic augment that develops by reason of the reciprocating parts revolving at high speed, the engine moving at high speed, added to the static wheel load creates certain stresses in the rail.

The Court: What do you mean by the locomotive being [fol. 2087] properly counterbalanced?

A. Well, a steam locomotive has certain reciprocating parts on the outside of the drivers by which the power of steam is conveyed through these rods and the piston to cause the driver wheels to revolve. Now, there is an unbalanced load on the outside of that wheel, a very heavy load represented by the large pin that comes out and holds certain rods, and as that wheel revolves there would be a blow struck that would immediately break the rail if it were not for the fact that the locomotive builder counterbalances his driver by putting in certain counterbalancing weights that bear closely the same weight as the reciprocating part. Now, it is impossible to perform that balancing of weights in a theoretical manner perfectly counterbalanced, therefore, the locomotive designer goes to the design of the spokes of his driver and by other scientific methods of adjusting the weights and keeping the rod weights down low, he is able to reduce the dynamic augment very materially as compared to a locomotive that was not properly counterbalanced.

The Court: Then that counterbalancing takes place entirely within the locomotive itself and has nothing to do [fol. 2088] with the number of cars that the locomotive may be hauling?

A. It has nothing to do with the number of cars behind the locomotive.

Mr. Masoir: Does it have any effect on the number of cars a locomotive may handle?

A. It has no effect.

Q. Now, you have spoken of the dynamic augment and, I believe, contrasted that with the static load. Do I understand the static load is the weight of the locomotive as it stands still?

A. As it stands still.

Q. And when a locomotive is in motion, the very fact of its motion, plus its weight, adds a certain amount to the blow that is struck on the rail as it proceeds along?

A. That is correct.

Q. And the greater the speed, the greater the additional blow that it strikes in proportion to the square of the speed?

A. Approximately so, yes, sir.

The Court: That is the reason why, then, there is a greater stress with your passenger trains on the rail than there would be with the heavier freight train?

A: That is correct.

[fol. 2089] Mr. Mason: Is that increase because of the motion and because of the square of the speed, or approximately the square of the speed, what you call the dynamic augment to the static load?

A: Yes, sir.

The Court: There was just one other question: With these Super-Chiefs and these extremely high-speed trains that are run, the stress on those rails must be something terrific with the trains running 100 miles an hour.

A: To the contrary, Your Honor, a train pulled by a Diesel locomotive doesn't have this problem of dynamic augment, for the reason that there are no reciprocating parts on a Diesel locomotive, which power unit is a gasoline engine that operates and generates electricity, which in turn is conveyed to motors attached to the axles and, furthermore, the center of gravity of a Diesel locomotive is not as high above the top of the rail as a steam locomotive, and the result is that you can run a Diesel locomotive at higher speeds over a given weight of rail and the stress in the rail will be less than with a steam locomotive.

The Court: Well, then, with all of these high-speed trains, [fol. 2090] the motive power is really from the Diesel engines?

A: Not necessarily, because the manufacturer of the steam locomotive, in order to compete with the Diesel locomotive, began to improve the design of his steam locomotive. One of the great improvements, just what I mentioned, in properly counterbalancing the locomotive. In former years when steam locomotives were held down to speeds of fifty or sixty miles an hour, they weren't properly counterbalanced as we now know, and the steam locomotive builder had to overcome that deficiency, and that is one of the reasons why the maintenance of way men said, "No, you can't run these locomotives any faster than the speed we specify, because you will set up stresses in the rail that will be too much." The result is that the steam locomotive man is now able to make locomotives that will run 100 miles an hour.



We operate a steam locomotive on the Coast Lines at 75 miles an hour.

Mr. Mason: Is that a regularly scheduled operation?

A. The daylights run at 75 miles an hour, regular scheduled operation, two daylights each direction daily, and I believe—well, I know that the Hiawatha, for instance, [fol. 2091] runs at 100 miles an hour, Chicago to Milwaukee. It is not desirable to run these locomotives at the higher speeds because the cost of maintenance goes up. If you can afford the increased cost of maintenance and traffic conditions demands, you run the train at higher speeds.

Q. Did you make any changes in the weight of rail on the Coast Lines before the 75-mile schedules were placed in effect on the Daylight?

A. I did.

Q. What were those changes?

A. Well, we started a program—

Mr. Strouss: If the Court please, I haven't objected, but it seems to me we are an awfully long ways from the question before the Court now. It is interesting, but we have a long ways to go in this case yet.

Mr. Mason: Did you place heavier rail in the track of the Coast Lines division where these 75-mile an hour trains were operated?

A. We did.

Mr. Strouss: I object to that.

The Court: Overrule the objection.

Mr. Mason: Suppose that you have in the track 90-pound or 85-pound rail, the tonnage life of which is not exhausted, [fol. 2092] if heavier rail than 90 or 85-pound is placed in the track in place of that 90-pound rail, what purpose is accomplished?

A. To permit passenger trains to operate at higher speeds.

Q. What other effect, if any, is accomplished?

A. To reduce maintenance expense.

Q. Is it necessary to place rail heavier than 85 or 90-pound in the track in order to permit long freight trains to be operated?

A. It is not.

Q. Do you have a regular program of changing out rail on the Pacific Lines, including the lines in Arizona and Nevada?

A. We do.

Q. What factors are considered in determining your rail change-out program?

A. We consider the factor of the tonnage life and the worn condition of the rail, the worn condition of the rail on curves, and operating necessities.

Q. Does that include the demand for higher speed passenger trains?

A. That is correct.

Q. And has that demand or prospect of higher speed passenger operation governed to some extent in your changing [fol. 2093] out of rail in Nevada in recent years?

A. It has.

Q. Now, if passenger trains are not increased in speed, Mr. Kirkbride, is it necessary to change out ninety or eighty-five pound rail which still has a useful tonnage life in order to permit more cars to be operated in passenger trains?

A. It is not necessary.

Q. Have you before you a statement in one sheet, Mr. Kirkbride, entitled, "Southern Pacific Company, Development of Rail Sections?"

A. I have.

Mr. Mason: May this be marked No. 157, if the Court please?

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 157 for identification.

Mr. Mason: Did you cause this exhibit to be prepared, Mr. Kirkbride?

A. I did.

Q. It was prepared in your office?

A. It was prepared in my office.

Q. From what sources?

A. From the basic drawings showing in detail the design [fol. 2094] of the rail sections upon which we have the manufacturers roll the rail.

Q. On which the manufacturers roll the rail?

A. On which the manufacturers roll the rail.

Q. Does this exhibit represent rail sections which have been or presently are in the tracks of the Southern Pacific Company?

A. It represents the various sections of rail from 75 pounds per yard up to the rail which we are about to lay in the year 1941, shown as 132-pound, head-free.

Q. Is the exhibit a true and correct representation of the underlying sources?

A. It is.

Q. Does this showing relate particularly to rail sections which have been or are, as to the last item, to be placed in the tracks in Arizona and Nevada or either state?

A. It does.

Mr. Mason: I will say, Your Honor, that we propose further to show in mileage figures the replacements of rail and the extent of rail of various weights in the tracks of Arizona and Nevada, and this exhibit will, if admitted, illustrate that testimony. Have you any questions, Mr. Strouss?

[fol. 2095] Mr. Strouss: No.

Mr. Mason: We offer the exhibit in evidence as Defendant's Exhibit No. 157.

Mr. Strouss: No objection.

The Court: It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 157.")

The Court: Do I understand, Mr. Kirkbridge, that the lightest rail that you have on any of your main lines is now 75 pound rail?

A. That is correct. The important main lines, principal main lines, involve 85, 90, 130, 110, 112 and 131-pound rail.

The Court: I wasn't just clear as to another point. Do I understand that these particular rails shown on this exhibit were made specially by the steel mills for the Southern Pacific and that they would differ necessarily from the rails used on other roads?

A. No; the railroads in the United States have an organization known as the American Railway Association, or from an engineering point of view the American Railway Engineering Association. This association consists of committees of engineers of the various railroads. They study [fol. 2096] these problems of rail, ballast, roadbeds, and

all other matters pertaining to track and bridge construction, and it is largely on the recommendation of these committees that the railroads adopt a certain section of rail. They don't necessarily have to, but they follow very closely or entirely the judgment of the recommendations. For instance, the 90-pound rail is a standard section common at one time in the United States, and the 110-pound, 112-pound, 130-pound, 131-pound, are exclusively A. R. A. standards of rail sections. Now, I may explain, Your Honor, that individual railroads, or people that deal in the sale of rails sometimes promote some special feature and claim great advantage therefrom. That explains what we mean by the term "head-free." You will notice that by looking at the section illustrating the 113-pound and the 132-pound, that the lower corners of the ball of the rail are cut off. Certain people called attention to the fact that that lower corner is never subject to wheel wear and that a greater life would be obtained from the rail if that metal was put on top of the ball. Now, we have been experimenting over a period of years, as well as other railroads in the United States, with that special section of [fol. 2097] rail. In all other respects it conforms to the standards and the chemistry prescribed by the rail committees of the American Railway Engineering Association. The result of our experiments, as well as the results obtained on other railroads, led us to adopt those two sections of rail for this coming year, with the expectation that we are going to very materially increase the life of the rail, as will be illustrated by the fact that in the case of the 132-pound head-free rail, the height is seven and five-sixteenths inches compared to the standard 131-pound rail with a height of seven and one-eighth inches. There is a difference in height, an increased difference in height there of those two rails. Now, all other features of those rails are similar to the 131-pound.

[fol. 2098] Mr. Mason: Except for the two cross-sections which are shown for the year 1940, are all of these others standard sections of the type ordinarily found or previously found in railroads generally?

A. They are.

Q. I think you said that the minimum weight of rail in any of our principal main lines is 85 or 90 pound?

A. That is true.

Q. Have you before you an exhibit in one sheet entitled "Southern Pacific Company, Development of Roadbed"?

A. I have.

Mr. Mason: May we have this exhibit marked as No. 158?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 158 for identification.

Mr. Mason: Was this prepared in your office and at your direction?

A. It was.

Q. From what sources was it prepared?

A. From our standard drawings that have been officially adopted from time to time to be used for the direction of [fol. 2099] our trackmen in maintaining their track.

Q. Is this a correct reproduction of these standard drawings?

A. It is.

Q. Are these the standards of cross-section of roadbed which have prevailed or now prevail on the Southern Pacific for the various types of ballast shown?

A. It is correct. It should be known, however, that the three top sections are obsolete standards and that we conform to the sections shown at the bottom of the sheet under present-day practice.

Mr. Mason: Have you any questions, Mr. Strauss?

Mr. Strauss: No, I think not.

Mr. Mason: Probably some further explanation of the exhibit is desirable but it would entail a discussion of the face of the exhibit so I will offer the exhibit now as defendant's exhibit No. 158 in evidence.

Mr. Strauss: No objection.

The Court: It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 158.")

Mr. Mason: Mr. Kirkbride, looking at exhibit No. 158, the [fol. 2100] solid black cross-sections of course are the cross-sections of the rails as they appear on the roadbed, are they?

A. That is correct.

Q. What is the rectangle in each illustration that appears immediately below the rail?



A. That is a cross-tie.

Q. Below and surrounding the tie, particularly in the lower illustration, what is the material shown there?

A. That is the ballast that is under and around about the tie.

Q. And below the ballast what does the line undertake to indicate?

A. That is foundation grade, representing the embankment or railroad cut upon which the track structure is supported.

Q. In the various illustrations, particularly the lower two, the space immediately below the center tie in each case is left blank. Is that for convenience in making the drawing?

A. These drawings were made just to be illustrative in a graphical sense. If I may say by referring to the lower drawing that our present standard ballast section provides for 8 inches and in some cases 12 inches depth of ballast [fol. 2101] below the tie, the tie being 7 inches deep, 9 inches wide, and 8 feet long.

Q. What I meant to ask you was, this, is the material which is shown opposite and under the ends of the ties also filled in under the middle of the ties?

A. That is completely filled in between the ties up to the top of the ties.

Mr. Strouss: I will agree that they don't bridge them.

Mr. Mason: Is this solid line below the material shown as ballast, is that sometimes referred to as the subgrade?

A. That is correct.

Q. In the illustrations for 1895, 1905, and 1930, you show an additional appliance or device in cross-section immediately under the base of the rail. What is that?

A. That is a tie plate.

Q. Just what is a tie plate?

A. A tie plate is a rectangular piece of metal especially rolled to be placed between the tie and the rail for the purpose of adding greater support to the rail to prevent its cutting into the tie and to permit the spiking of the rail to true line and gauge. There are four spike holes through [fol. 2102] a tie plate, permitting spikes being driven on the inside of the flange and on the outside of the flange.

The Court: Does that tie plate more evenly distribute the load over the tie itself?

A. Yes, sir, it acts as a very useful purpose in distributing the load uniformly to the entire tie surface.

Mr. Mason: Have you an exhibit which illustrates the development of tie plates?

A. I have.

Q. Being in one sheet and entitled, "Southern Pacific Company, Development of Tie Plates"?

A. I have.

Mr. Mason: We ask that that exhibit be marked No. 159.

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 159 for identification.

Mr. Mason: Was this exhibit prepared from original drawings of record in the engineering department?

A. It was.

Q. Under your supervision?

A. That is correct.

[fol. 2103] Q. Is it a correct representation of those original records?

A. It is.

Mr. Mason: Have you any questions on the exhibit, Mr. Strouss?

Mr. Strouss: No questions.

Mr. Mason: I understand from the face of this exhibit, Mr. Kirkbride, it represents in cross-section the tie plates for various weights and types of rail which you referred to in your discussion of the preceding exhibits No. 157 and No. 158?

A. That is correct, old standards and present new standards.

Mr. Mason: We offer the exhibit in evidence as No. 159.

Mr. Strouss: No objection.

The Court: It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 159.")

The Court: Before we leave the rails, there is one further question, Mr. Kirkbride, referring to exhibit No. 157.

I notice that you use the term "moment of inertia." What is the meaning of that term as applied to those rails?

A. In the scientific design of a rail a balanced condition and a distribution of metal exists as between the top called [fol. 2104] the "ball" and the base represented by the two flanges, the vertical member being the web. Now the strength of any metal of this shape is developed by the depth, the relative depth, between the top area and the bottom area and the areas of these top and bottom areas. To find out whether this rail is strong enough to support a weight between two fulcrums or points of support, the structural engineer goes into the mechanical features of that, known as "moments of inertia." Small minute areas are assumed at the top and bottom in relation to the neutral axis which is about midway between the top and bottom and a moment is set up, a mathematical moment is set up, that unit times its distance, and then a summation of all those various units is made and the final answer is what is called the "moment of inertia." That is a rather rough description of the mathematics of the thing but it does enable the bridge designer, for instance, to determine the strength of a beam or girder, all of the factors being that you have a top flange and a bottom flange and a vertical flange and the greater the depth and the more the area the stronger the beam will be. Now a rail must be designed on the same principle as a bridge girder because it does serve [fol. 2105] such a purpose, spanning a gap from tie to tie, which is approximately 21 or in some cases 22 and 24 inches centers. I may further say that a rail is subject to other stresses; that is, to wear and tear on the ball and the outward thrust of the drivers of the locomotive. That is particularly true when you come to curves, the drivers bear on the outside of the curve, the outside rail, by reason of the operation of centrifugal force, and we try to overcome that by making the rails stiff and stable, hence the determination of a width of 5 or 6 inches.

The Court: Thank you.

Mr. Mason: Referring to exhibit No. 157, 158, and 159, do the standards which these exhibits portray apply to the tracks equally in Nevada and in Arizona?

A. They do.

Q. Do they conform generally to standards observed or set forth by the engineering committee of the Association of American Railroads?

A. They do.

Q. The maintenance of bridges comes under your jurisdiction as you stated?

A. That is correct.

Q. Have you any restrictions in the state of Arizona as [fol. 2106] to the weight of locomotives which may operate over any bridges in Arizona?

A. There are no restrictions due to bridges and trestles.

Q. Does that statement include the Colorado River bridge at Yuma?

A. That is a very modern bridge, that statement is correct.

Q. Is there any restriction from the standard of weight of locomotives which may be operated applicable to any main line bridges in the states of New Mexico or Texas on the Pacific lines?

A. No restrictions exist.

Q. Does that include the Rio Grande River bridges immediately west of El Paso?

A. It includes both bridges. I may say when we took over the E. P. & S. W. we had to rebuild or reinforce the bridge across the Rio Grande at El Paso in order to make it of sufficient strength to accommodate our locomotives.

Q. Suppose you wanted to run a train of AC class locomotives, four or five of them coupled in tandem, that is, immediately following each other with no cars between them, would you be able to run such a group of locomotives over the Colorado River bridge at Yuma?

[fol. 2107] A. We could so run the locomotives.

Q. Over the Rio Grande River bridges at El Paso?

A. That is correct.

Q. Would there be any bridges in the state of Arizona or New Mexico otherwise which would be restricted as to such a movement?

A. No such bridges.

Q. Does the same apply to trestles and culverts?

A. That is correct.

Q. Will you refer to the bridges in the states of Nevada and Utah and say whether your statements as to the adequacy of the bridges in Arizona and New Mexico apply alike there?

A. All bridges, trestles, and culverts are adequate to handle the power being operated or that is available for operation.

Q. Would you have any restriction against the operation of a succession of locomotives coupled together in Nevada or Utah?

A. No restriction.

Q. Have you with you a memorandum of the distribution of rail by weights in the state of Arizona?

A. I have.

[fol. 2108] Q. First I will ask you what is the total miles of main track in the state of Arizona as of the end of the year 1940 to which your memorandum relates?

A. There is 808.29 miles.

Q. In the state of Nevada have you a memorandum relating to the miles of track and weight of rail?

A. 819.82 miles including the Western Pacific Railroad paired track.

Q. The 819.82 figure which you have just recited is the main track mileage over which the Southern Pacific trains operate?

A. Yes, sir.

Q. Referring to the year 1912, what was the main track mileage of the Southern Pacific in Arizona as of June 30th?

A. 392.54 miles.

Q. Was there any of that laid with rail of greater weight than 90 pound?

A. No such weight of rail existed in the track.

Q. How much of it was laid with rail of 90 pound?

A. 100.55 miles.

Q. How much of it with rail of 85-pound weight?

A. 124.89 miles.

[fol. 2109] Q. Was that 85 or 80 pound?

A. That is 80. There was no 85-pound rail.

Q. 124.89 is 80 pound?

A. Yes.

Q. How much of it was there of 75 or 76 pound?

A. 167.45 miles.

Q. Was there any of it less than 75 pound?

A. .65 of a mile that was under 75-pound rail.

Q. Going to the year 1920, how many miles of main track were operated by the Southern Pacific in Arizona on December 31, 1920?

A. 399.95 miles.



Q. Was any of that laid with 110 or heavier weight of rail?

A. None of it was laid with such weight of rail.

Q. What was the heaviest weight of rail?

A. 90 pound.

Q. How much of the 90 pound?

A. 288.7 miles.

Q. Was there any 85 pound?

A. No. 85.

Q. How much 80 pound was there?

A. 105.8 miles.

Q. Was there any 75 or 76 pound?

A. 5.45 miles.

Q. Was there any of less weight than 75 pound?

[fol. 2110] A. None.

Q. In 1930 what was the total mileage of track operated by the company in Arizona?

A. 808.29 miles.

Q. How much of that was 130 or 131 pound?

A. 12 miles.

Q. How much was 110 or 112 pound?

A. 104.41 miles.

Q. How much was 90 pound?

A. 593.12 miles.

Q. How much was 85 pound?

A. 98.76 miles.

Q. Was there any of less weight than 85 pound?

A. No weight less than 85.

Q. In 1935 was the operated mileage the same as in 1930?

A. It was the same as 1930.

Q. How much 130-pound rail was in the track as of the end of 1935?

A. 36 miles.

Q. Of 110 and 112 pound?

A. 184.68 miles.

Q. Of 90 pound?

A. 507.32 miles.

Q. Of 85 pound?

A. 80.29 miles.

[fol. 2111] Q. Was there any lighter rail than 85 pound?

A. None.

Q. At the end of 1939 was the mileage the same?

A. The same.

Q. What was the mileage of 130 and 131-pound rail?

A. 57.17 miles.

Q. Of 110 and 112?

A. 273.55 miles.

Q. Of 90 pound?

A. 406.65 miles.

Q. Of 85 pound?

A. 70.92 miles.

Q. Was there any of lighter weight?

A. None.

Q. On December 31, 1940, have you the figures of rail by weights?

A. I have.

Q. What was the mileage of 130 and 131 pound?

A. 59 miles.

Q. And 110 and 112?

A. 305.43 miles.

Q. Of 90 pound?

A. 376.54 miles.

Q. Of 85 pound?

A. 67.31 miles.

[fol. 2112] Q. Was there any lighter weight rail?

A. None.

Q. You spoke previously I believe of the construction of the alternate main line through Phoenix as having taken place in 1924, 1925, and 1926. What weight of rail was used in constructing that line?

A. 90-pound section.

Q. Is that a relatively light traffic line from the standpoint of gross tonnage?

A. It is.

Q. There is today as you have just stated 376.54 miles of 90-pound rail in the track in the state of Arizona. Where is the largest proportion of that 90-pound rail found?

A. 90-pound rail exists on the Phoenix line to which you have just referred continuously from Wellton through to Pinalo except for a few curves. There is some 90-pound rail between Wellton and Dome and then there is 90-pound rail in stretches on the old line between Wellton, Gila, Phoenix, and Tucson. There is 90-pound rail in the track eastward from Tucson and in stretches continuing on to the state line, and dealing with the other line out of Tucson there is some 90-pound rail mixed up with the 85.

[fol. 2113] Q. You have referred to 85-pound rail previously, I think, as being in the line acquired from the E. P. & S. W. in 1924?

A. That is correct.

Q. Your figures show there was as of the end of 1940, 67.31 miles of 85-pound rail still in main line track in the state of Arizona?

A. That is correct.

Q. Where is that 85-pound rail found?

A. Taking the line out of Tucson and continuing on up to Mescal down to Fairbank and to Douglas and in certain stretches between Douglas eastward to the state line, 85-pound rail will be found.

The Court: Most of it is on the old E. P. & S. W. line?

A. I have just described that, it is all on the E. P. & S. W.

Mr. Mason: Is the E. P. & S. W. now called the south line through Douglas, a relatively light traffic line?

A. It is a relatively light traffic line.

Q. You spoke of some of this 85-pound rail on the line between Tucson and Mescal on the westward line, I believe?

A. It is due to the fact that the two lines within a few miles of Tucson are combined in there, practically speaking [fol. 2114] ing there is no 85-pound rail on the eastward track. It is all on the westward track.

Q. That is the downhill track?

A. The downhill track from Mescal to Tucson.

Q. You spoke of 90-pound rail, I think, in the track between Dome and Wellton. Is that double track?

A. Yes, sir.

Q. Does one of the two tracks of a double track receive less tonnage than a single track immediately adjacent to it?

A. I think the tonnage is about evenly divided between those two tracks.

Q. You mean eastward and westward tracks between Dome and Wellton?

A. Yes, sir.

The Court: We will take a short recess at this time.

(Thereupon a short recess was taken after which proceedings were resumed as follows.)

Mr. Mason: Mr. Kirkbride, earlier in your testimony you spoke of your duties as including the programming of vari-

ous maintenance projects to be conducted each calendar year including the programming of rail changes and rail renewal. Have you made up a program of rail renewal for [fol. 2115] Arizona for the year 1941?

A. We have.

Q. Will you state briefly what your program for this state contemplates?

A. Our program which is approved to commence the year with, looking forward to what we think we can do this year, is two hundred miles of new rail which is being purchased and that is distributed to the divisions in such a manner that we are going to lay 44 miles on the Tucson division, of which I think about 6 miles is just east of the state line, on the north line.

Q. The balance will all be in Arizona?

A. The balance will all be in Arizona.

Q. Have you any program of new rail for the Rio Grande division in Arizona?

A. There is some changing out of rail on the south line out of Tucson and extending to Douglas, the total being some 11 miles.

Q. What is to be the weight of the new rail placed in the track in Arizona according to your program?

A. The rail is to be of those sections shown as 113 pound and 132 pound head-free rails. Separating as between the weights of rail, there would be about 39 miles—now, referring to the Tucson division—there would be about 39 miles of the 113 and 5 miles of the 132-pound section, all of the 132-pound section being laid on curves within the state of Arizona.

Q. If I got your figures correctly, of the 44 miles programmed for the Tucson division, 38 are within the state of Arizona, is that correct?

A. That is correct.

Q. And in addition, there are 11 miles on the Rio Grande division?

A. Yes, sir.

Q. Or a total of 49 miles programmed for 1941 for Arizona?

A. Yes, sir.

Q. Have you a memorandum as to the distribution of rails by weights and by years for the state of Nevada?

A. I have.

Q. Your figures for the state of Arizona are taken, are they not, from reports to the Arizona Corporation Commission supplemented by original records of your own office?

A. That is correct.

Q. And your figures for Nevada are taken from annual reports to the Public Service Commission of that state supplemented by your own records?

A. That is correct.

Q. In the state of Nevada, take the end of the year 1920, what was the total miles of track operated in that state in that year?

A. 522.15.

Q. Was there any of that rail of greater weight than 90 pound?

A. None of it of greater weight than 90 pound.

Q. How much of it was of 90-pound weight?

A. 423.66 miles.

Q. How much of 85?

A. There was no 85-pound rail.

Q. How much of 80 pound?

A. 96.98 miles.

Q. Was there any 75 or 76-pound rail?

A. 1.51 miles.

Q. Any of lighter weight?

A. None.

Q. What was the total operated mileage in 1925?

A. 731.45 miles.

Q. Was any 130 or 131-pound in the track in 1925?

A. None.

Q. What was the mileage of 110 and 112 pound?

[fol. 2118] A. 16.05.

Q. Of 90 pound?

A. 597.75 miles.

Q. Of 85 pound?

A. 177.62 miles.

Q. Where was that 177.62 miles found?

A. On the Western Pacific paired track.

Q. How much 80 pound was there on December 31, 1925?

A. 28.81 miles.

Q. And the 75 pound?

A. 1.22 miles.

Q. In 1930 what was the total mileage of track?



A. 816.48.

Q. How much of that was 130 or 131 pound?

A. 25.45.

Q. How much was 110 and 112 pound?

A. 161.99 miles.

Q. And 90 pound?

A. 393.94 miles.

Q. And 85 pound?

A. 177.62 miles.

Q. And 80 pound?

A. .35 of a mile.

Q. And 75 and 76 pound?

A. 57.13 miles.

[fol. 2119] Q. Where was that 57.13 miles?

A. From Fernley extending to Alturas.

Q. Is that a line which formerly was a branch and was converted to main line in 1929?

A. It was.

Q. In 1935 what was the total of track mileage?

A. 816.38 miles.

Q. What was the mileage of 130 and 131 pound rail?

A. 55.94 miles.

Q. 110 and 112 pound?

A. 479.91 miles.

Q. 90 pound?

A. 190.96 miles.

Q. 85 pound?

A. 47.62 miles.

Q. 80 pound?

A. .35 of a mile.

Q. 75 and 76 pound?

A. 41.60 miles.

Q. What was the total mileage operated at the end of 1939?

A. 819.82 miles.

Q. And what was the mileage of 130 and 131-pound rail?

A. 77.38 miles.

[fol. 2120] Q. 110 and 112?

A. 642.19 miles.

Q. 90 pound?

A. 65.83 miles.

Q. Any 85 pound?

A. No.

Q. Any 80 pound?

A. 15 of a mile.

Q. 75 and 76 pound?

A. 34.27 miles.

Q. And the mileage as of the end of 1940?

A. 819.82 miles.

Q. 130 and 131-pound rail?

A. 78.47 miles.

Q. 110 and 112 pound?

A. 666.07 miles.

Q. 90 pound?

A. 41.90 miles.

Q. 85 pound?

A. None.

Q. 80 pound?

A. 15 of a mile.

Q. And 75 and 76 pound?

A. 33.28 miles.

[Vol. 2121] Mr. Mason: Do I understand that all of the 75 and 76 is still on the Fernley-Modoc line?

A. That is correct.

Q. Is that a line of relatively light traffic?

A. Relatively light as compared to the main line.

Q. Any passenger operation over that line?

A. No passenger operation.

Q. You have stated, I believe, Mr. Kirkbride, that the standard of ballast on the Pacific Lines is eight inches, is that correct?

A. And twelve inches measured in depth under the ties to the sub-grade.

Q. Now, as of the present day, is there any track in the state of Arizona which is not fully ballasted?

A. None, dealing with the main line.

Q. That is what I am referring to, the main line. Is there any of the main operated track in the state of Nevada that is not fully ballasted?

A. None.

Q. What is the character of the ballast in use as of the end of 1940 in Arizona, giving that by districts, with particular reference to the Yuma-Gila-Lordsburg line?

A. There is in use in our lines in Arizona two types of [Vol. 2122] ballast, namely, slag ballast from Douglas, some

of it coming from El Paso smelters, and the crushed granite rock from Dome.

Q. Now, the same line between Yuma and Lordsburg via Gila and Tucson was Southern Pacific property in 1912, as has been testified. Will you refer to the several sections of the line and state what the character of that ballast was in 1912, and what the character of the ballast is today?

A. All ballast was either gravel or none. When we say "none" we mean native material was substituted. For instance, Yuma to Wellton, there was gravel ballast.

Q. What is it today, Yuma to Wellton?

A. It is rock ballast.

Q. And the next section?

A. Wellton to Trigo, in 1912, none; now it is rock. Trigo to Enid, in 1912 was none, and now it is slag; Enid to Heaton was none in 1912, and now it is rock; Heaton to Jaynes in 1912 was gravel, now it is slag; Jaynes to Tucson in 1912 was none, now it is slag. Tucson to Vail, gravel in 1912, now slag. Vail to Chamiso, rock in 1912, slag now. Chamiso to State Line was rock, and it is now rock and slag. [fol. 2123] Q. Have you increased the depth of the placement of ballast on the Arizona lines since 1912, or more particularly, since 1920?

A. We have very materially increased the amount of ballast by reason of the fact that our policy in connection with laying new rail is to surface the track up on new ballast approximately four inches in depth or more under the bottom of the tie; the existing ballast being used as a supporting ballast under the new ballast, and we commonly refer to it as sub-ballast; the combined depth of the accumulated ballast under the track in many cases approximating the depth of twelve inches below the bottom of the tie.

Q. Have you increased the standard of ballast in the state of Nevada since 1920?

A. We have.

Q. In the same manner as you have described in Arizona?

A. That is correct.

Q. Now, going to the matter of signals, have you a memorandum of the amount of track protected by automatic block signals in Arizona for several years past?

A. I have.

Q. Referring first to June 30, 1912, how much of the main [fol. 2124] track in Arizona was protected by automatic box signals in miles?

A. 291.27.

Q. How much was not protected?

A. 102.71.

Q. Now, in 1920, how much track was protected by automatic block signals?

A. 296.30.

Q. And how much wasn't protected?

A. 103.65.

Q. In 1925 what was protected?

A. 455.40.

Q. And not protected?

A. 121.04.

Q. What was the situation in 1930?

A. 799.30 miles protected, 8.99 miles not protected.

Q. Is the situation in 1940 and in the intervening years, the same as in 1930?

A. Identical.

Q. Where is this 8.99 miles of main track not protected?

A. Well, it is in the Tucson yard, 7.69 miles of it, being the old south line of the E. P. & S. W.

Q. That is still regarded for the purposes of this computation [fol. 2125] as main line?

A. That is correct.

Q. Is it frequently used for the movement of trains?

A. It is not.

Q. And the balance is within the Tucson yard limits?

A. That is correct.

Q. Now, in the state of Nevada, in 1920, what was the mileage of main track protected by automatic block signals?

A. 521.85 miles.

Q. And how much not protected?

A. .30 of a mile.

Q. In 1930, what was the total mileage of the track protected by automatic block signals?

A. 748.81 miles.

Q. How much was not protected by signals?

A. 67.56 miles.

Q. Where is that mileage not protected by block signals found?

A. That is the line from Fernley on to Alturas.

Q. That is the portion of it in the state of Nevada, is it?

[fol. 2126] A. That is the portion of it in the state of Nevada.

Q. Now, in 1939, what was the total mileage of track in Nevada protected by block signals?

A. 752.5.

Q. Is the situation the same today?

A. It is the same.

Q. And not protected by block signals how much?

A. The same, 67.56.

Q. Is there a short mileage in Nevada protected by a so-called manual interlocker system?

A. .11 of a mile.

Q. How long has that prevailed?

A. That has prevailed since 1925.

Q. Are these block signals, automatic block signals in Arizona and Nevada wayside signals?

A. They are wayside signals.

Q. Generally the semaphore type?

A. Semaphore type.

Q. Is the color-light type of signal in use to any extent?

A. It is not.

Q. What type of ties are used in the main lines in Arizona?

A. We use creosoted fir, creosoted Texas pine, creosoted gum from Louisiana, creosoted spruce and fir from New [fol. 2127] Mexico, and a very small proportion of creosoted oak ties that come from Louisiana.

Q. Are there any portions of the main track in Arizona which are not predominantly laid with creosoted ties?

A. Very small part not laid with creosoted ties.

Q. Are there any stretches of track where creosoted ties are not found at all, or will the non-creosoted ties be found individually at intervals?

A. Our policy of tie renewals calls for the replacement of the tie, the individual tie as it requires replacement. Prior to the adoption of creosoting, we used zinc chloride treated ties, and there are probably a few of those in the tracks.

Q. Do you use the same class of creosoted ties in the state of Nevada?



A. The same class of treatment prevails over the System, there being this exception, that we use Oregon fir exclusively and Port Orford cedar ties for Oregon, the gum tie and the Texas pine not being available for that territory.

Q. Are all of the ties you use in Nevada as replacements at the present time creosoted ties?

A. They are all creosoted ties or Port Orford cedar ties. [fol. 2128]. I may say, by way of explanation, that the Port Orford timber gives great resistance to decay, so that we classify it as similar in life to a creosoted tie.

Q. Do you use the same size of ties in the main lines in both states?

A. The same size.

Q. Is that general over the System?

A. It is general over the System, the same standard applies throughout the System.

Q. Is that in accordance with any standards or recommendations of the A.A.R. or its engineering committees?

A. Not specifically, although a seven by nine by eight foot tie is a common standard throughout the United States.

Q. How many ties per mile do you use in the main lines in Arizona?

A. We use 3,250 ties per mile.

The Court: How many was that?

A. 3,250 ties per mile.

Mr. Mason: Do you use any different standard of ties per mile in Nevada?

A. The same standard applies.

Q. Has there been any change in the standard of ties in [fol. 2129] Arizona as between 1912 or 1920 and the present day?

A. There has been a very material change in that the creosote tie has been adopted, and the size of tie previously ranged down to six by seven, and there were not so many ties used in the railroad, namely, we formerly used 2,880 per main-line track mile.

Q. Are the lines in Arizona laid with tie-plates under the rails?

A. They are all laid with tie-plates under the rail.

Q. Has that been true since 1912?

A. The railroad in 1912 was continuously tie-plated in Arizona.

Q. There has been, however, a change in the design of the tie-plate, as indicated on your exhibit No. 159, is that correct?

A. There is a very material change in the size and design of the tie-plate.

Q. Does that result in strengthening the tie-plate?

A. The tie-plate is much stronger and covers a greater area of space on the tie. For instance, the tie-plate formerly used along in 1912 was  $7\frac{1}{2}$  square inches between and eight and three-quarters inches applied lengthwise with [fol. 2130] the tie, and our present plate is, for 110-112-pound rail, ten and seven-eighths inches long and occupying an area of 92.44 square inches, and the plate that goes under the 131 or 132-pound rail is eleven and three-eighths inches long, and is of such a width as to give 96.69 square inches of bearing area on the top. There has been a very material change in the design, which is due to the recommendations of the American Railway Engineering Association, and that is represented by the two flanges that are shown on the two bottom sections of Exhibit 159. This results in the rail resting within a pocket with a ridge of metal projecting against the flange on both sides of the rail. This offers additional strength against spreading of the rail under the impact or pressure of the flanges of the wheels; in other words, these projecting ridges of metal supplement the holding power of the spikes. The outer width is increased to three inches from the outer flange of the rail in order to prevent a tendency for the tie-plates to settle down into the tie and thus tip the rail over.

Q. Now, are the lines in Nevada continuously tie-plated?

A. They are.

[fol. 2131] Q. Have they been continuously tie-plated for several years past?

A. They have.

Q. Have they experienced the same changes in design of tie-plate which have taken place in Arizona?

A. The same change; the standards apply to all divisions.

Q. Will you say whether or not the climatic conditions in Arizona are relatively favorable or unfavorable to track maintenance?

A. They are favorable.

Q. Just what climatic conditions do you refer to in that regard?

A. The absence of heavy rainfall, creating a semi-arid condition, results in a dry, permeable soil, with which the roadbed is constructed. This results in a sub-grade strong, firm and solid, easily maintained and without undue or sudden settlement, which in turn would affect the surface of the track.

Q. Are the conditions of topography in Arizona relatively favorable or unfavorable?

A. They are favorable by reason of the long distances; visibility being long and great, and only hills of moderate [fol. 2132] length or height; and without obstructing view due to forests or other obstructions incident to civilization. That is represented by a dense population, there being few grade crossings due to the scarcity of roads.

Q. Are the grade conditions in Arizona and New Mexico generally less severe or more severe than on other parts of the System?

Mr. Strouss: I object to that as calling for a conclusion.

Mr. Mason: This is merely a statement of mathematical facts within the witness's knowledge.

The Court: The objection is overruled.

A. They are less severe because the grades of the lines are not very steep, much flat level grade exists, whereas, elsewhere, on other parts of the System—

Mr. Strouss: Now, I would like to have this also, to know what parts of the System he is talking about.

The Court: Yes, be specific on that.

Mr. Mason: Where you speak of other parts of the System, where heavier grades exist, what parts do you speak of?

A. Elsewhere in California and Oregon, the height of the mountain grades, the river crossings that we traverse [fol. 2133] makes it necessary to use steeper grades.

Q. Now, what is the ruling grade, for example, on the mountain crossing between Roseville and Sparks, eastward?

A. The compensated grade ascending eastward would be 2.47.

Q. 2.47?

A. Yes, sir.

Q. And what is the ruling grade for the crossing of the Tehachapi Mountain from Bakersfield southward?

A. That is a compensated grade of 2.5 per cent.

Q. What is the ruling grade crossing the Pass between Colton and Indio, the so-called Beaumont Hill?

A. Two per cent.

Q. Is that eastward as well as westward?

A. It is a 1.9 per cent eastward and two per cent westward.

Q. What is the ruling grade crossing the Santa Margarita Mountains between San Luis Obispo and Paso Robles?

A. 2.2 per cent.

Q. In both directions?

A. Yes, sir.

[fol. 2134] Q. What is the ruling grade across the Siskiyou Mountains in northern California and southern Oregon?

A. 3.3 per cent.

Q. Is that on the line between Black Butte and Ashland?

A. That is correct; the old line.

Q. What is it on the line via Klamath Falls and Crescent Lake?

A. We develop up the western slope of the Cascades on a 4 per cent, but on the easterly slope the ruling grade is 1.8 per cent.

Q. Is that 1.8 per cent opposed to traffic moving from San Francisco to Portland?

A. It is opposed to traffic moving southward from the Willamette Valley or from Portland.

Q. To Klamath Falls and San Francisco?

A. To Klamath Falls and San Francisco.

Q. Do you encounter any such grades as those you have mentioned on any main line in the State of Arizona?

A. We do not.

Q. Do you encounter any grades such as those in any part of the State of Nevada or Utah?

A. We do not.

Q. Will you say whether or not climatic conditions as [fol. 2135] they affect railroad maintenance and operation which prevail in Nevada and Utah resemble or differ from the conditions which prevail in Arizona?

A. They resemble.

Q. Is there any difference in the winter weather along our lines in Nevada as compared to the winter weather along our lines in Arizona?

A. The winter conditions are similar, except for the territory between Casper and Montello, a distance of about 120 miles, where, particularly in the territory west of Wells, very low temperatures exist during the winter months, our thermometers having recorded temperatures below zero, ranging from 40 to 60 degrees.

Q. Do those periods of extremely cold weather prevail throughout the winter or only at intervals?

A. At intervals during the winter months only.

Q. Is Nevada generally a region of sparse rainfall, and having the other conditions of soil which you refer to as obtaining in Arizona?

A. It is.

Q. In referring to the grades on other portions of the System, I overlooked calling your attention to one other. [fol. 2136] Are you familiar with the grade at the upper end of the Sacramento Canyon from Dunsmuir up to Mount Shasta?

A. Yes, we use a 2.2 grade climbing out of Dunsmuir to the territory of Mott, then we flatten off into a 1.4 per cent.

Q. One other grade I want to ask you about, the grade on the western division between Niles, California and Tracy, California?

A. Altamont Hill is developed on a ruling grade of 1.3 per cent.

Q. Do the climatic and operating conditions which you have described in Arizona prevail likewise to a large extent on the company's lines in New Mexico?

A. That is correct.

Mr. Mason: I think that is all. Thank you. You may cross examine.

Mr. Strouss: I won't be able to release Mr. Kirkbride completely tonight, but I have some questions I want to ask.

Cross-examination.

By Mr. Strouss:

Q. When you were discussing earlier in the day defects in the rails, what did you mean by the term "defects," [fol. 2137] Mr. Kirkbride?

A. Well, rails in service develop weaknesses that result in actual breakage or removal from track because they are not considered suitable for further use. Now, there are various different kinds of defects.



Q. What I particularly want to know, were you using the term "defect" there with the meaning that flaws were in the rail which were caused in the making?

A. The source can be traced back to some imperfection in the manufacture in the rail.

Q. In other words, you are using the term "defect" as something that was wrong with the rail itself, not something that is, well, as contrasted to the wear of the rail?

A. Well, defects develop through wear. By way of illustration, you might have in the rolling of a rail, the hot metal having been taken off of the furnace, the open hearth furnace, and poured into an ingot, and then the ingot put in the soaking pit, and then finally put through the rolls, there might be certain imperfect practices, for instance, inclusions of slag might be in the rail, and that inclusion of slag would be in the rail when it is delivered to the [fol. 2128] company that purchased the rail. Now, there might be gas bubbles of hydrogen in the hot metal and in the soaking pits the rail wasn't given the opportunity to let the hot gases get out, and you would roll that rail and there would be a bubble that would be stretched out on the interior section of the rail, and it would take many years of service before that pipe, as we call it, due to this bubble of gas that is spread out in lamination, before it breaks. Of course, as I say, the original source of that defect was in the manufacture of the rail. Now, there might be various other defects in the rail.

Q. You are speaking, then, about defects in the manufacture of the rail, not the normal wear of a perfect rail?

A. I am not referring to the normal wear of a perfect rail.

Q. By the way, is the American Railway Engineering Association, is that a branch of the A.R.A.?

A. It is a branch.

Q. And when you refer to the A.R.A., that now is known as the A.A.R., is that correct?

A. That is correct. We still have the American Railway Engineering Association?

[fol. 2139] Q. But it is a branch now of the A.A. R.?

A. That is correct.

Q. Now, I believe you testified that as to Exhibits 154 and 156, that the condensing of the profile exaggerates, was it the vertical lines?

A. Well, it exaggerates the contour of the ground.  
[fol. 2140] Mr. Strouss: If one map is drawn on a different scale than the other, the map with the smaller scale would be exaggerated more, would it not?

A. It depends on the relationship between your horizontal scale and the vertical scale.

Q. I believe you stated these were vertical scales that were shown on these exhibits?

A. I stated the vertical scale was illustrated by the horizontal lines marked 1000, 2000, 3000 or 4000.

Q. The scale on exhibits 155 and 156 seem to be different. That is, the scale on 155 seems to be a larger scale than on 156. I wondered why you used a different scale.

A. The original map is a master tracing and these are photostats. Obviously the scale will not be the same depending on the exact size the map was made.

Mr. Mason: I will say this for your information, Mr. Strouss, that Mr. Kirkbride may not have been familiar with the fact that we were trying to make these sheets all 11-1 2 inches wide and that is why one has been reduced a little more in the photograph than the others.

The Court: Because the originals were not the same [fol. 2141] size.

Mr. Mason: There is more information up and down on 156 than there is on 155. There had to be three drawings placed one above the other in order to show the profiles on 156 and only two on 155 and consequently there has been a little more squeezing on 156 in photography.

Mr. Strouss: That is what I was trying to develop, that 156 has been condensed more than 155.

Mr. Mason: The condensation naturally is simply that due to increase or decrease in size of photograph and squeezes the exhibit both ways, horizontally as well as vertically.

Mr. Strouss: That is true in both exhibits.

Mr. Mason: Yes.

Mr. Strouss: The Southern Pacific Company has the profile maps showing these. — I don't mean here in Tucson?

A. Yes, we have the profiles in San Francisco from which these condensed profiles are made.

Q. The Southern Pacific Company also maintains records with respect to curves on its line, does it not?

A. We do.

Q. Is that called a contour map?

[fol. 2142] A. No, the alignment of the track is shown in plan, including the right-of-way and land ownership and so forth by a right-of-way map upon which the alignment of the track is platted as well as the right-of-way that is known upon which the railroad is built.

Q. Does that show the curves and their location and degree of curve?

A. Yes, sir.

Q. Are there other records giving that same information?

A. Yes, there are various records.

Mr. Strouss: I would say to counsel I would like the profile records showing the ruling grades in both these territories and I want the record showing the curves and the location and the degrees of curvature in both territories.

Mr. Mason: Let me discuss with you off the record whether we will be able to satisfy your request and we will be able to say on the record whether we can.

Mr. Strouss: All right.

Q. You testified concerning the speed limits, both passenger and freight. Each division has special rules and special instructions governing speed in their territory, isn't that true?

[fol. 2143] A. That is correct.

Q. That is shown on the employees' timetables for the particular division?

A. Yes, sir.

Mr. Strouss: I understood from counsel that those timetables will be put in.

Mr. Booth: Yes, we will put in a complete set of timetables and either side may use them.

Mr. Mason: I think it is desirable to have the employees' timetables for the entire system part of the record and we will undertake to produce a sufficient number so they may be made an exhibit in the record. They have already been furnished to Mr. Strouss but I am not sure that those furnished are the latest editions as of this date. There have been some trains put on and perhaps some taken off since those were furnished.

The Court: Did I understand you to testify, Mr. Kirkbride, that with the exception of the mileage in the Tucson

yards the entire main line of the Southern Pacific was protected by block signals!

A. That is correct.

Mr. Mason: I take it your Honor has reference to the line in Arizona.

The Court: Yes.

[fol. 2144] Mr. Strauss: In your testimony a few minutes ago regarding the density of population did I understand you to testify that there is the same density of population along your main line in Nevada as in Arizona?

A. I didn't mean to say the same, but the situation as to population is very similar, the towns being far apart and rather few, so that there are long distances between stations without obstructions.

Q. As to grade crossings?

A. There are few grade crossings and both states are similar in that respect.

Q. What about the cities in Arizona? Are there comparable cities in Nevada?

A. The cities of Arizona are larger than in Nevada.

Q. And that results in more grade crossings?

A. Well, I wouldn't say that. For instance, the town of Reno while of less population than Phoenix or Tucson have a fearful lot of grade crossings; there is one grade crossing right after another.

Q. There are quite a few in Phoenix, aren't there?

A. Yes, that is true.

[fol. 2145] Q. And Tucson?

A. No, Tucson isn't so bad, and they have some subways in Tucson.

Q. They don't have any in Reno?

A. We have no subways in Reno—pardon me, I want to correct that. There are two subways in Reno, the outermost parts of Reno.

Q. Your maintenance crews have been reduced quite a bit over the last 15 or 20 years, haven't they?

A. No, I wouldn't say that.

Q. I am speaking about the number of crews now.

A. There has been some reduction in sections. Are you referring to section forces as pertaining to a section?

Q. That is right.

A. There has been some increase in the length of sections due to providing the section men with gasoline motor cars.

Q. So that your sections have been lengthened out and the number of section crews have been reduced?

A. Yes sir, but when we talk of track forces or section forces we include the extra gangs which now do the major part of the track work.

[fol. 2146] Q. Do you have your record of grade crossings for the two states?

Mr. Mason: We intend to put in an exhibit of the grade crossings of Arizona and Nevada.

Mr. Strouss: I think that is all the questions I have at the present time.

The Court: What is the mileage covered by one section crew now?

A. The average length of a section is ten miles; they will run up to 14 miles or they may be eight miles where curve conditions exist.

Mr. Mason: By that you mean track miles rather than road miles.

A. I mean track miles but not including sidings.

Mr. Mason: Do you have shorter sections in double track territory where there are two tracks to be maintained expressed in road miles?

A. Expressed in road miles it would be a shorter distance.

Mr. Strouss: The tonnage ratings of your locomotives are also shown in your employees' timetables for the particular divisions?

A. Yes, sir.

Mr. Strouss: After I have examined these records which I have referred to I may have some further questions. If [fol. 2147] Mr. Kirkbride is leaving I can look those records up and tell you after I have gone over them whether it will be necessary to bring him back.

Mr. Mason: We appreciate that very much, Mr. Strouss. Then you will not require him to return Tuesday morning, the 14th, for further cross-examination?



Mr. Strouss: No, I will want to examine the records which I will discuss with you after we have recessed before I will be prepared to cross-examine him further.

Mr. Mason: Will it be convenient for you to return at some other time, Mr. Kirkbride, if Mr. Strouss wants you to do so?

A. Yes.

(Discussion off the record.)

The Court: Then we will recess until Tuesday morning at ten o'clock.

(Thereupon at 4:00 p. m. January 9, 1941, the court stood at recess until 10:00 a. m. Tuesday, January 14, 1941.)

[fol. 2148] January 14, 1941, Ten o'clock A. M.

Proceedings were resumed at this time as follows:

The Court: You may proceed.

Mr. Mason: Before we proceed with any further testimony, Your Honor, I wanted to discuss with Mr. Strouss the matter of some stipulation with him which would cover the exhibits Nos. 11 and 12, which were offered when Mr. Porter of the New York Central was on the stand. In connection with other exhibits of this same kind, Mr. Strouss, there were certain questions you asked of the witness who presented them, and I am wondering if we couldn't have from you a statement of the questions that you would ask Mr. Porter if he were recalled, then we will obtain by correspondence with him the answers, and we can stipulate those answers in the record?

Mr. Strouss: Yes, I will be glad to do that.

Mr. Mason: Will you give the matter your consideration and tell me, perhaps today, what those questions will be and I will air-mail Mr. Porter the questions and get the answers to them.

Mr. Strouss: I will do that this noon.

The Court: That is as to exhibits 11 and 12?

[fol. 2149] Mr. Mason: Yes, Exhibits 11 and 12. I will call Mr. Masson for further testimony.

L. J. Masson was recalled to the stand, and testified further as follows:

Direct Examination. (Continued).

By Mr. Mason:

Q. Mr. Masson, I think that the last exhibit introduced by you was No. 151, Freight Operating and Freight Transportation Expenses Related to Traffic, Southern Pacific Company, Calendar years 1922 to 1939, Inclusive?

A. That is true.

Q. Have you that exhibit before you now?

A. Yes.

Q. Now, I wish you would refer, please to columns 4 and 6, particularly, of that exhibit, and state, if you will, explain your answer, whether the expenses which are included in freight transportation expenses, column 4, and which becomes the cost per thousand revenue ton-miles when carried into column 6, are affected by increases or reductions in train lengths.

[fol. 2150] Mr. Strauss: If the Court please, I object to that. The exhibits can speak for themselves, and it is plain here that this is made up of a number of items that the witness has testified to. If there is going to be testimony as to what the effect would be, I think the evidence should be as to what those items are and the changes in them.

The Court: Your objection is that it calls for a conclusion of the witness?

Mr. Strauss: Yes, calling for a conclusion.

The Court: I am inclined to sustain the objection, Mr. Mason. The objection is sustained.

Mr. Mason: Referring to freight transportation expenses, Mr. Masson, will you state whether or not wages of trainmen and enginemen are included in the items which go to make up those totals?

A. Yes.

Q. Now, will you state whether or not the item of the expenses of wages for trainmen and enginemen increases in proportion, or tends to increase in proportion to the number of trains operated?

Mr. Strouss: I object to that as calling for a conclusion. [fol. 2151] The facts might be testified to, but the conclusion to be drawn from those facts, is a matter for the Court. It is not a matter of expert testimony.

The Court: Yes, I will sustain the objection.

Mr. Mason: You are familiar, are you, Mr. Masson, with the fact that when a train is operated there must be trainmen and enginemen employed in connection with that operation?

A. Yes, sir.

Q. And do you know how many men are employed to operate a train of seventy freight cars in Arizona as members of the train and engine crews?

A. Two men on the engine, engineer and fireman, conductor and three brakemen.

Q. Now, if the train consists of sixty or seventy cars, are the same number of men employed?

A. Yes.

Q. If the train were to consist of a hundred cars, would the same number of men be employed?

A. Yes.

Q. If two trains are operated, do you employ twice as many men, or any additional men?

A. Naturally, we would have to have a crew for each train.

Q. Would you pay additional wages to the additional train crew for the second train?

[fol. 2152] Mr. Strouss: What is meant by "additional wages"; other than their regular wages?

Mr. Mason: Would the men employed on the second train be paid for their services?

A. Well, the boys don't work for nothing.

Q. Thus, by a series of what might be called second or first grade questions, we have established that the expense varies upward or downward in proportion to the number of trains operated; is that correct?

Mr. Strouss: I object to that as calling for a conclusion.

The Court: The objection is overruled.

A. The facts are these: as I said, the boys don't work for nothing. If we operate one train, we pay one crew's wages, the wages of one crew; if we operate two trains,

naturally we have to pay two crews. It naturally follows that the expense is greater for two trains in wages than it is for one train.

[fol. 2153] Mr. Mason: Q. Now, Mr. Masson, suppose that we have at Yuma 490 cars to be moved over the Tucson division eastward. Under present restrictions what is the minimum number of trains in which those cars could be moved?

A. That would take seven trains of 70 cars each, 490 cars.

Q. Suppose that the Train Limit Law being absent, it were practicable to move in units of, let's say, 100 cars, how many trains would be required?

A. I should say four trains of 100 cars each and one train of 90 cars.

Q. So in one instance there would be seven trains and in the other not more than five, is that correct?

A. That is true. Now, of course, dispatchers might work those cars into fewer trains, four trains possibly.

Q. Will you say whether or not a train limitation such as a 70-car law has the effect of increasing or reducing the number of trains required to handle a given amount of traffic?

Mr. Strouss: I object to that question as calling for a conclusion.

The Court: Objection overruled, it is very evident what [fol. 2154] the answer will be.

Mr. Strouss: It is not a matter of expert testimony.

Mr. Mason: Isn't a matter of mathematics well within the comprehension of the assistant general auditor? Even an ordinary attorney may figure that one.

The Court: He may answer.

A. Possibly I could answer that with some figures. Let's take 1939, for instance.

Mr. Mason: First of all I would like to have the question answered specifically. Will you read the question, please.

(The question was read by the reporter as follows: "Will you say whether or not a train limitation such as a 70-car law has the effect of increasing or reducing the number of trains required to handle a given amount of traffic?")

A. Where a given amount of traffic expressed in ton-miles or car-miles is to be moved, the number of trains re-

quired to handle it will increase if the trains are shortened. In other words, as longer trains are operated; fewer of them will be required to handle the same quantity of traffic.

Q. I think you have stated when additional trains are operated additional wages are paid. If fewer and longer [fol. 2155] trains are operated, will the wage expense for train and engine service employees tend to increase or reduce, assuming that the volume of traffic remains constant?

A. Over all the fewer, the number of trains the less wages we will have to pay.

Q. Then if for a constant volume of traffic you pay less wages, can you make a similar computation as to the wage cost per unit of traffic handled, contrasting long-train and short-train operations?

A. The longer the train, the lesser will be the unit cost.

Q. Speaking of wages?

A. Yes.

Q. Where longer trains are operated and fewer of them, will you require more or fewer locomotives for the operation?

A. Longer trains would require of course fewer locomotives, assuming that heavier power will be used.

Q. Do costs of locomotive operations, such as fuel and supplies enter into the accounts which form the group making up freight transportation expenses?

A. Yes.

Q. In the operation of fewer locomotives in the manner that you have indicated, would the costs of locomotive fuel [fol. 2156] and supplies tend to increase or to decline?

A. It would decline.

Mr. Strouss: May I have any objection go to the competency of this?

The Court: Yes.

Mr. Mason: What effect, if any, would that tendency to decline have upon the unit cost of freight transportation expense applied to a unit of traffic?

A. The more units of traffic that you can handle in a train the lesser will be your unit cost.

Q. Have you before you a statement in one sheet bearing title, "Southern Pacific Company, Freight Operating and Freight Transportation Expenses Related to Traffic, State of Arizona, Calendar Years 1922 to 1939, Inclusive"?

A. Yes.



Mr. Mason: We ask that this statement be marked No. 160 for identification.

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 160 for identification.

Mr. Mason: This statement appears to be similar in form to exhibit No. 151, Mr. Masson, is that correct?

[fol. 2157] A. Yes.

Q. And relates entirely to the state of Arizona?

A. Yes.

Q. Did you have this statement prepared under your direction?

A. Yes.

Q. From what sources?

A. As shown at the bottom of the exhibit, it is taken from schedules 931 and 720 or corresponding schedules of annual reports to the Corporation Commission of the state of Arizona.

Q. Are the computations in columns 5 and 6 and those in the blocks at the foot of the sheet made from the other figures appearing in columns 2, 3, and 4?

A. Yes.

Q. Will you state whether or not the explanation previously made in connection with exhibit No. 151 applies also to exhibit No. 160 for identification?

A. Yes.

Q. Has the exhibit been compared and checked against the original sources?

A. The exhibit has been prepared under my supervision [fol. 2158] and direction, and I spot-checked it and it is correct to the best of my knowledge and belief.

Q. I think you stated previously that any reports to the Corporation Commission of the state of Arizona were available?

A. Yes, they are available.

Mr. Mason: I believe, Mr. Strouss, that you have them from another source anyway?

Mr. Strouss: I don't have them here, they are on file with the Corporation Commission.

The Witness: We have them here.

Mr. Strouss: Mr. Masson has told me that.

Mr. Mason: Have you any questions on No. 160, Mr. Strouss?

Mr. Strouss: Yes. This includes both interstate and intrastate expense, doesn't it?

A. It includes the expense of handling all traffic within the state of Arizona.

Mr. Strouss: Interstate and intrastate?

A. Yes.

Mr. Strouss: Is there any formula used in connection with the apportionment of the expense on interstate?

A. To the state of Arizona?

Mr. Strouss: Yes.

[fol. 2159] A. Yes, as prescribed by the Corporation Commission of the State of Arizona.

Mr. Strouss: And the amounts shown here are in accordance with that formula?

A. Yes, the amounts shown there represent freight expense directly assignable to the state or the freight proportion of interstate expense allocated to the state in accordance with this formula.

Mr. Strouss: I have no objection to the exhibit.

Mr. Mason: We offer it in evidence as No. 160.

Mr. Strouss: This covers all expense, branch lines as well as main lines, doesn't it?

A. Yes.

The Court: It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 160".)

[fol. 2160] Mr. Mason: In connection with Exhibit 160, Mr. Mason, will you please refer to Exhibit 149?

A. Yes, sir, 149. Do you refer to Exhibit 160?

Q. I want you to look at 160 and 149 together. As I understand it, Exhibit 149 shows the results of freight train operation in the State of Arizona and, as you have explained, shows the average cars per train in column 4?

A. Yes.

Q. Now, will you look at the years 1922 to 1925, inclusive, in column 4 of 149? Can you compute, readily, the average cars per train during that four-year period? Well, if the computation has not been made, I will pass the subject matter for the moment.

A. No, the computation has not been made.

Q. And ask you to make the computation at the first recess, then we will return to it. Are there any figures on 160 which can be compared with figures on Exhibit 151 for the System?

A. The material comparisons are found in the lower part of the exhibits, where the exhibit 160 shows that in Arizona, there was a reduction in the cost per thousand revenue [fol: 2161] ton-miles of total of freight operating expenses of nineteen and a half per cent.

Q. That is the last figure in Column 5 of Exhibit 160?

A. Yes. Now, the corresponding figure in Column 5 of Exhibit 151 shows that there was a decrease in freight operating expenses on the System of 28.1 per cent.

Q. That is the comparison of the first full four-year period shown on each exhibit with the last full four-year period shown on each exhibit, isn't it?

A. Yes.

Q. Will you also refer to the figures in column 6, and especially of percentage of improvements?

A. In Arizona, exhibit 160 shows, in column 6, a reduction in freight transportation expenses of 6.8 per cent as against a reduction on the System of 21.5 per cent, which is shown in column 6 of Exhibit 151.

Mr. Mason: Have you any questions, Mr. Strouss, before we pass to another exhibit?

Mr. Strouss: No; I think I prefer to wait until you have completed your examination. I will have to go back and [fol: 2162] piece this together when he is finished.

Mr. Mason: Have you before you, Mr. Masson, a statement in one sheet entitled "Southern Pacific Company—"

The Court: (Interrupting) Oh, Mr. Mason, before you go on with that, the Court does have one question.

Q. Now, I notice by reference to Exhibit 160, as you have just pointed out in your testimony, that the percent of improvements over the entire system, or at least the Pacific Lines, was far greater, that is in the last line; the fifth and sixth columns, than it was in the State of Arizona, and yet,

I find difficulty in reconciling that with the fact that, taking your totals for the years 1936 to 1939, the freight operating expense for the entire system, averaged per one thousand revenue ton-miles apparently \$7.15, whereas, within the state of Arizona, it was only \$5.97. Isn't that a lesser cost of operation?

A. It is a lesser cost, but the degree of reduction is more on the System than it is in Arizona. The unit cost, it is true, is less. But when we compare the unit cost in the first block, 1922 to 1925, with 1936-1939, we find that relatively the costs have reduced to a greater extent on the System.

Q. And yet, Mr. Masson, in the first four years of this period, 1922 to 1925, the operating cost or expense for the entire system was \$9.94 as against \$7.42 for the State of Arizona?

A. That is true.

Q. I find a little difficulty in my own mind in reconciling these figures with the figures in the two columns above?

A. Possibly we look at it in a different way. You are looking at it as to the unit cost. We concede that the unit costs in Arizona, according to these figures, are lower than the System's. However, comparing the two periods, while the cost in Arizona is lower, the progress downward was at a less rapid pace than on the System as a whole.

Q. In other words, you are making more substantial reductions in your cost of operations on the System as a whole?

A. Yes.

Q. On a percentage basis than you were in the State of Arizona?

A. Yes; that is the intent of this exhibit; that is what this exhibit intends to show, the pace or the rapidity of the [fol. 2164] decline was greater on the System, expressed percentage-wise, than it was in Arizona.

Q. Well, even conceding that to be true, as shown by your exhibits, how do you account for the fact, in light of your previous testimony here this morning, that it costs more to operate the short trains, proportionately, than it does if you were to operate long trains, I say, how do you account for the fact that the operating cost in the state of Arizona is less than over the entire system?

A. That is because the entire System takes up all of its operations, long trains, short trains, main line and branches.

Now, the System as a whole, has many branches, which, of course are not affected by the long or the short train operations.

Q. By the way, Mr. Masson, let me interrupt there. I notice your exhibit 151 refers to Pacific Lines?

A. Yes.

Q. Does that include the entire System?

A. Yes.

Q. So, when you say, "Pacific Lines," you really mean the Southern Pacific Railroad Company in its [fol. 2165] entirety?

A. In its entirety? I don't mean that, no, sir. The Southern Pacific Company owns and operates the lines from—

The Court: Well, shown here on Exhibit 151.

The Witness: Yes. Besides that, it operates the Atlantic Steamship Lines, that is the Southern Pacific Company. When we speak of the Pacific Lines of the Southern Pacific Company, we mean the lines that are on the map there.

The Court: The railroad?

A. Yes.

Mr. Mason: It doesn't include the lines east of El Paso, Texas?

A. No, it doesn't. The lines east of El Paso, Texas, are operated by the Texas and New Orleans Railroad. That railroad is wholly owned by the Southern Pacific Company, but it is separately operated.

The Court: But the statistics of operation are included in your Exhibit 151?

A. No, sir; later on in my testimony. I will have an exhibit that will show the net income of the transportation system. We know, or we term the lines, that are the map, the Pacific Lines of the Southern Pacific Company. The [fol. 2166] lines that are on the map plus the lines east of El Paso, and the Atlantic Steamship Lines are known by us as the transportation system of the Southern Pacific Company.

The Court: I see.

The Witness: (Continuing) So the exhibits that we are submitting here headed, "Pacific Lines," deal only with the lines that are on the map.



The Court: But that does not include the line from El Paso to Tucumcari?

A. Oh, yes, I overlooked that when I said east of El Paso. It includes the lines from El Paso to Tucumcari as part of the Pacific Lines.

The Court: All right.

Mr. Strouss: I didn't mean to say that I wouldn't eventually have some questions of this witness.

The Court: I understand that, Mr. Strouss.

Mr. Mason: I understand. I said, at this time.

Mr. Strouss: I have a number of questions on the exhibit, but I want to see what further exhibits are put in. There may be an exhibit as to operating ratios.

The Court: You may proceed.

[fol. 2167] Mr. Mason: Mr. Masson, were you present in the courtroom when Mr. Kirkbride testified as to the operating conditions in Arizona and Nevada, and to some extent as to those in California and Oregon?

A. Yes, sir.

Q. These absolute unit cost figures, getting away for a moment from the improvement percentages, for Arizona as compared to the System as a whole to some extent would be affected by the operating conditions in Arizona if they are more favorable than those which prevail in other parts of the System, would they not?

A. Naturally.

The Court: Will you read that question and answer?

(The last question and answer were read by the reporter.)

Mr. Mason: Now, in order to complete the picture, Mr. Masson, will you turn to your next exhibit, "freight operating and freight transportation expenses related to traffic, State of Nevada," have you that before you?

A. Yes.

Mr. Mason: May we have that statement in one sheet marked "Defendant's Exhibit 161?"

[fol. 2168] The Court: It may be marked.

The Clerk: Defendant's Exhibit 161 for identification.

Mr. Mason: Will you state, Mr. Masson, whether Exhibit 161 for identification resembles No. 160 and also 151?

A. Yes.

Q. But relates entirely to the State of Nevada?

A. Yes.

Q. What is the source of the figures?

A. Taken from the annual report to the Public Service Commission of the State of Nevada, that is, columns 2, 3, and 4, are taken from that source.

Q. And the computations are otherwise your own computations?

A. Yes.

Q. And you have undertaken to show percentages of improvement by four-year periods, comparing the first four years with the last four years?

A. Yes.

Q. Are the figures for freight operating and freight transportation expenses for traffic handled in Nevada allocated to that state in accordance with a formula prescribed [fol. 2169] by the Public Service Commission?

A. They are allocated to the state in accordance with a formula adopted by the National Association of Railway Commissioners.

Q. National Association of Railway Commissioners?

A. Yes.

Q. Is the same formula followed in both Arizona and Nevada?

A. No.

[fol. 2170] Mr. Mason:—What is the difference, if any, between the formula used in allocating the expenses to the state of Arizona and that used in allocating expenses to the state of Nevada?

A. Read that question back, please.

(The question was read by the reporter.)

A. The difference is this, that expenses allocated to Nevada are on a straight relative train-mile basis, whereas the expenses allocated to Arizona are on the basis of the formulae prescribed by the Arizona commission.

Q. Does the formula prescribed by the Arizona commission take into account other matters besides the train-mile basis?

A. It does, various accounts are split on different bases.

Q. Are any of them allocated on the train-mile basis?

A. I don't find that any of them are.

Q. Are any of these expenses directly allocated to the states in which they are incurred instead of being apportioned?

A. In Arizona, yes; Nevada, no.

The Court: Mr. Masson, these two exhibits which are identical as to form, I refer to No. 160 and No. 161, which purport to show the status of matters in the states of [fol. 2171] Arizona and Nevada, are the figures shown in columns 5 and 6 for those two states comparable?

A. As to the manner of composition, no.

The Court: That is by reason of the fact that a different formula or basis is used for the preparation of these reports in accordance with the laws of the state of Nevada and the laws of the state of Arizona?

A. Yes.

Mr. Mason: Has the same method of allocating the expenses to the state of Arizona been in effect throughout the period 1922 to 1939 shown on exhibit No. 160?

A. Yes.

Q. Has the same method of allocating the expenses to the state of Nevada been in effect throughout the period shown on exhibit No. 161 for identification?

A. Yes.

Q. Will you say whether or not the exhibits correctly indicate the trends of expenses over the period indicated, disregarding for the moment any attempt to compare absolute costs?

A. In my opinion they do.

Q. Do they indicate the trends of expenses, actual and [fol. 2172] average expenses, in the same manner as No. 151?

A. Yes.

The Court: In exhibit No. 151, which covers your entire system, are the figures shown there more comparable with the Arizona setup or with the Nevada setup?

A. They are more comparable with the Nevada setup.

Mr. Mason: Are these figures on exhibit No. 151 the actual figures without allocation of the entire system?

A. Those are the actual figures for the entire system.

Q. Those are not allocated or apportioned?

A. As between services only.

Q. But not as between territories?

A. No.

Q. These figures on exhibit No. 161 are apportioned as between Nevada and the balance of the system, are they?

A. Yes.

Q. These represent the Nevada apportionment?

A. Yes.

Q. As reported and as required to be reported to the Public Service Commission of that state?

[fol. 2173] A. Yes.

Q. Is this a correct transcription of the figures appearing in the reports to the Public Service Commission?

A. Those figures were taken from the reports to the commission, were spot-checked by me, and I believe them to be correct.

Q. And the computations were made under your direction, were they?

A. Yes.

Q. Have you the reports to the Nevada commission for the period of years covered by exhibit No. 161?

A. We have them here. They are in use now, but we will have them available for Mr. Strouss at the close of my testimony?

The Court: Just one more question. I notice by reference to exhibit No. 151 those figures are taken from the reports made to the Interstate Commerce Commission. I take it that Arizona is the one that is out of step in its accounting system rather than Nevada?

A. I wouldn't say that Arizona is out of step, Your Honor, that is the method they require. We have besides Arizona a different basis yet for Oregon, so that each state according to its disposition and outlook has required the [fol. 2174] allocation of expenses to their respective states according as they saw fit. Arizona prescribed this formula; Oregon has another formula; Utah, New Mexico, California, Nevada, all use the formula prescribed by the National Association of Railway Commissioners.

Mr. Mason: Irrespective of the differences in formulae, will you say whether or not the figures as reported to the several commissions of Arizona or Nevada or to the Inter-

state Commerce Commission will reflect increases or reductions in expenses of operation as they occur?

A. Yes.

Q. Will they accurately reflect the trends of operating expenses either upward or downward as those trends are revealed in actual money spent?

A. Yes.

Mr. Mason: Have you any questions on exhibit No. 161, Mr. Strouss?

Mr. Strouss: Yes, I have. Mr. Masson, the same basis of wage scales is not in effect in Nevada and Arizona as far as train crews are concerned. In other words, your enginemen are paid on the basis of so-called "mountain territory" and "plain territory"?

[fol. 2175] Mr. Mason: Paid on the basis of weight on drivers in both states.

Mr. Strouss: One uses the mountain territory as a basis and the other is on the basis of plain territory, isn't that true?

A. The basic rate is the same but our enginemen are paid according to the weight on drivers. Naturally where we have heavy power the engineman will get a higher rate of pay than the man who is running a smaller engine.

Mr. Strouss: You have a differential in wages according to whether it is so-called "mountain territory" or "plain territory"?

A. Yes.

Mr. Mason: I didn't qualify the witness in respect to that and I don't know that this is proper cross-examination in any event. The agreements with the train and engine service employees contain rates for the districts and divisions as shown on Mr. Kirkbride's exhibit, showing the divisions by boundaries and would unquestionably be the best evidence, if you have a copy, that is, brought down to date. As a matter of fact I am sure there is no mountain differential on enginemen, that is based entirely on weight on drivers. You may be correct as to trainmen.

[fol. 2176] Mr. Strouss: I am asking this to lay the basis for an objection that this is not proper. Cost of helper service is an item that enters into transportation and operating expense, isn't that true?



A. Yes.

Mr. Strouss: It is a fact on the Salt Lake division your helper service there is something over one hundred thousand locomotive-miles in excess of that in Arizona, or was for the year 1939?

A. In what territory?

Mr. Strouss: Salt Lake division, in excess of that in Arizona.

Mr. Mason: Is that a matter that is now in evidence?

Mr. Strouss: I don't think it is in evidence, I am seeking the information.

Mr. Mason: It is based upon an assumption of fact not in evidence.

Mr. Strouss: I am taking the information from the records given to me. I am asking if it is a fact as shown by the record of the company as a basis for determining whether there is a comparison between the two divisions.

Mr. Mason: I think that is improper cross-examination. I think that if that is a fact it should be brought out in the State's affirmative case. I don't think there is any such [fol. 2177] fact in evidence now.

The Court: I believe that is true.

Mr. Strouss: This is offered as a comparison between the two divisions, whether they are comparable or not.

Mr. Mason: Isn't that a method of affirmative attack on the part of the State to show that the comparison, such as it is, has certain deficiencies?

The Court: No, I will overrule the objection. However, we are not going into great detail on this or into contracts which are not in evidence. We will take our morning recess at this time.

(Thereupon a short recess was taken after which proceedings were resumed as follows.)

Mr. Mason: I think there was an unanswered question pending.

The Court: Yes. You may proceed, Mr. Strouss.

The Witness: That question was what?

(The question was read by the reporter as follows: "It is a fact on the Salt Lake division your helper service there is something over one hundred thousand locomotive-miles in excess of that in Arizona, or was for the year 1939?")

A. Are you speaking of state of Arizona or Salt Lake division against Tucson division?

[fol. 2178] Mr. Strouss: Against the Tucson division.

Mr. Mason: I suggest without undertaking to renew the objection to the question if the question relates to the Salt Lake and Tucson divisions it doesn't exactly address itself to exhibit No. 161 for identification, which relates to the state of Nevada, and its companion exhibit, No. 160, relates to the state of Arizona. The Salt Lake division includes mileage outside the state of Nevada and does not include all the mileage within that state, although nearly all of it, but it includes mileage in Utah and California as well. The Tucson division does not include all the mileage in Arizona, as Your Honor will recall from Mr. Kirkbride's exhibit No. 154.

The Court: As to the question relating to a comparison between the divisions, the objection will be sustained.

[fol. 2179] Mr. Strouss: Well, can you limit that to the two states? As to the two states, Nevada and Arizona, the helper cost for the year 1939 was substantially in excess of that in Nevada, wasn't it?

A. Will you pardon me just a moment until I get my books. Arizona, for the year 1939, had 201,311 helper locomotive-miles; Nevada had 70,678 helper locomotive-miles in freight service. That would indicate that the helper miles were greater in Arizona than they were in Nevada.

Q. Now, referring to yard switching freight service, the locomotive-miles in yard switching freight service was substantially greater in Arizona than in Nevada for the year 1939?

A. Did you say substantially greater in Nevada?

Q. In Arizona, freight service.

A. Arizona had 419,662 yard switching locomotive-miles in freight service, and Nevada had 146,196.

Q. That is an item that enters into both transportation and operation expense?

A. Yes.

Mr. Strouss: Those are the only questions I have.

[fol. 2180] Mr. Mason: What were the total locomotive miles in Arizona and Nevada in the year 1939?

A. Total locomotive miles in freight service in Arizona was 3,644,355; in Nevada it was 2,214,295.

Q. Where more trains are run, Mr. Masson, it is necessary to run more locomotive-miles, isn't it?

A. Why, yes.

Mr. Strouss: Are all these figures main-line or main-line and branch?

A. This is main line and branch.

Q. The last or all of them?

A. What is that?

Q. The last figures, the total locomotive miles, that is main-line and branch.

A. Yes, sir.

Q. Now, the figures given as to helper locomotive miles, main line only, wasn't it?

A. That is main line and branch, if we have any helper on the branch. In other words, those figures I quoted, come from Schedule 931 of the Annual Reports, which comprehends locomotives in all services on main line and branches.

Mr. Mason: And what about yard switching, is that main line only, or main line and branch?

[fol. 2181] A. That is wherever it happens to be. In other words, these figures I gave you are the totals within the state on any lines that are operated.

Q. These figures on 161, are likewise figures for the State, whether main or branch lines?

A. Yes.

Q. Is the same true of 160?

A. Yes.

Q. And 151?

A. Yes.

Q. I don't know whether I asked you, Mr. Masson, but, in any event, I will ask you again, is the Exhibit 161 for identification true and correct in so far as it reproduces the underlying source?

A. It is.

Q. And true and correct in so far as the computations are made?

A. It is to the best of my knowledge and belief.

Mr. Mason: We offer the exhibit in evidence as Defendant's Exhibit 161.

Mr. Strouss: Objected to as irrelevant and immaterial, and incompetent.

The Court: The objection is overruled. It may be admitted. [fol. 2182]

(The document referred to was received in evidence and marked "Defendant Exhibit No. 161.")

Mr. Mason: Now, are there any figures on Exhibit 161, Mr. Masson, to which you wish to direct attention, having in mind the preceding exhibits numbers 151 and 160?

A. Yes; the figures which represents the progress made in reducing expenses contained in the last line on Exhibit 161 entitled "Percent of Improvement, four years, 1936 to 1939, Compared with four years 1922 to 1925," shows that in the State of Nevada there was 30.7 per cent reduction in the average freight operating expenses per thousand revenue ton-miles. That is shown in column 5 of Exhibit 161. In column 6, the last figure therein, of Exhibit 161, shows that there was a reduction in the average freight transportation expenses per thousand revenue ton-miles of 24.4 per cent. That, by the way, is a much better showing than for the System.

Q. Has the basis of reporting and allocating the expense to Nevada been the same throughout the period shown in this exhibit?

A. Yes.

[fol. 2183] Q. Are the figures for the four-year period 1922 to 1925, inclusive, in the line which is shown for those figures, comparable from that standpoint to those for the last four years?

A. Yes.

Q. You were asked to refer to exhibit 149, and to compute the average cars per train for the four-year period 1922 to 1925, inclusive, for Arizona. Have you made that computation?

A. Yes. I developed a figure of 54.4 cars per train.

Q. Now, have you made the computation of the average cars per train for the years 1936 to 1939 for Arizona from the same exhibit?

A. I have not.

Mr. Mason: Well, we will defer that computation until 1 o'clock, and when you make it, I wish you would also make a computation of the average cars per train for Nevada for the four years 1922 to 1925, inclusive, and the four years 1936 to 1939, inclusive, from Exhibit 150.

(Addressing Mr. Strauss:) Before we pass to the next exhibit, Mr. Strauss, I have in the courtroom here for the purpose of furnishing to you, in compliance with your request made at the conclusion of Mr. Kirkbride's testimony, [fol. 2184] the profiles of our main line in Arizona from the California-Arizona state line to the Arizona-New Mexico state line, including the line via Phoenix, and the south line via Douglas, main lines only, and likewise from the California-Nevada state line to the Nevada-Utah state line, both the so-called principal main line via Sparks, Imlay, Carlin and so forth, and the auxiliary main line from Fernley to the Nevada-California state line in the direction of Wendel and Alturas. Now, I understand these profiles include the information as to grades, as well as curvatures, which you wish to have. They are in the boxes in the rear of the inclosure here and will be available to you.

Q. Mr. Masson, have you before you a statement in one sheet entitled, "Southern Pacific Company, Freight Service Operating Averages, Calendar Years 1922," and then alternate years to 1938, and including 1939?

A. Yes.

Q. Being in one sheet?

A. Yes.

Mr. Mason: We ask that this exhibit be marked No. 162 for identification.

The Court: It may be marked.

[fol. 2185] The Clerk: Defendant's Exhibit No. 162 for identification.

Mr. Mason: Did you cause Exhibit 162 for identification to be prepared, Mr. Masson?

A. Yes.

Q. Are the sources of the exhibit as shown in the footnotes thereon?

A. Yes.

Q. And do you recall Dr. Parmalee's exhibit No. 22?

A. Yes.

Q. I will ask you whether exhibit 162 for identification is similar to Dr. Parmalee's exhibit No. 22, the difference being that this exhibit relates to the Pacific lines of the Southern Pacific Company, whereas, the exhibit of Dr. Parmalee relates to Class 1 railroads of the United States?

A. It is the same as Dr. Parmalee's exhibit, except that



this exhibit 162 applies or deals with data pertaining exclusively to the Southern Pacific Company Pacific Lines.

Q. Now, Line No. 1, or Item No. 1 of exhibit 162 relates to miles of road operated in freight service. Will you state whether that includes only main lines or all main and branch lines?

[fol. 2186] A. Main and branch lines.

Q. What do the figures in Item 2, freight train-miles relate to, from the same standpoint?

A. All freight train-miles made on main and branch lines over the entire system.

Q. Are those figures contained in the OS-A reports in exactly the same form as they appear here?

A. Yes.

Q. What as to Item 3?

A. Item 3 appears in the OS-A report.

Q. Likewise Item 4?

A. Item 4, yes.

Q. Does Item 3 include only loaded cars or all cars both loaded and empty?

A. Loaded and empty.

Q. When you speak of net tons per freight train, as shown in Item 4, does that include any of the weight of equipment?

A. No, it only includes the contents of the traffic, the contents of the cars I should say.

Q. Does it include non-revenue as well as revenue freight?

A. Yes.

Q. Now, Item No. 5, is that a calculated figure?

[fol. 2187] A. Yes, that is based on data that is shown in the Annual Report to the Interstate Commerce Commission.

Q. It is a quotient as indicated in the note bearing the reference to Item 5?

A. Yes.

Q. And obtained from what figures appearing in the underlying source?

A. It is the total tractive effort that appears in Schedule 417, Column X, page 405, using 1939 as an illustration, divided by the total number of locomotives available for service at the close of the year.

Q. And is Item 6 a similar quotient calculated by division of items appearing in the annual report?

A. Item 6 is a figure that is reported in the annual report to the Interstate Commerce Commission in Schedule 417.

being on line 26 of the Annual Report for 1939, using that year as an illustration, page 406, except that we have in preparing this exhibit dropped one place in the decimal, raising the figure "five" to "six"; in other words, the figure in the annual report reads 47.55 whereas the figure in 1939 of the exhibit reads 47.6.

Q. In general, in this item number 6 you have reduced [fol. 2188] the decimal places to one and taken the nearest whole tenth, is that correct?

A. Yes.

Q. Now, these other figures, Items 7 and 8, are figures reported to the Commission, are they?

A. On Form OS-A, yes.

Q. And Item 9, is that a calculated figure?

A. Item 9 is a calculated figure, yes.

Q. The net ton-miles and the train-hours being reported on the form?

A. The net ton-miles, the basic figures are shown on Form OS-A.

Q. What about Item 10?

A. The basic figures are shown on Form OS-A, from 1922 to 1934, then the gross ton-miles, cars, contents and cabooses are shown on Form OS-A, and the equated net tons of fuel consumed is shown on Form OS-E, both of those forms are required monthly by the Interstate Commerce Commission.

Q. Do you have these forms, OS-A and OS-E to the extent that they have been used in the preparation of Exhibit 162 for identification available here in the courtroom?

A. Yes.

Q. And I think you have stated already that you have [fol. 2189] the annual reports on Form A to the Commission?

A. Yes.

Q. Likewise available. Has the exhibit been compared and checked as to the original figures and checked as to the compilations?

A. Yes, and the exhibit is correct to the best of my knowledge and belief.

Q. There are certain computations which appear in the two columns furthest to the right on the exhibit. Are those computations explained by the headings?

A. Yes.

Q. Have those computations likewise been checked?

A. They have been spot-checked by me, and they are correct to the best of my knowledge and belief.

Mr. Mason: Have you any questions, Mr. Strouss?

Mr. Strouss: Mr. Masson, on Item 1, you have an increase of mileage of road operated?

A. No.

Q. That item, assume a mile of single track and a mile of double track road, would the double track be considered as one mile of road operated, or two [fol. 2190] miles?

A. That would be one mile. This is miles of road point to point. If we were speaking of tracks, we would say track-miles, that would include first, second, and third track, and so on.

Q. You say point to point. Now, your line by way of Lordsburg, and your line by way of Douglas are considered as separate lines in this miles of road operated, are they not?

A. Yes.

Q. Although they both go from Tucson to El Paso?

A. No, we don't consider that as a second track.

The Court: Is that by reason of the fact they serve different territory?

A. Yes.

Q. They are not parallel in any sense of the word except for a short distance?

A. That is true.

Mr. Strouss: Your increases shown in miles of road operated are due to the acquisition of additional roads like the E. P. & S. W.?

A. Yes.

Q. And possibly the construction of some [fol. 2191] A. Over the period of years, Mr. Strouss, from 1922 to 1939, that mileage figure is affected by the acquisition of lines, such as the Arizona Eastern and the El Paso and Southwestern, by the construction of new lines and by the abandonment of other lines.

Q. And usually your abandonment is due to the fact that a line has become unprofitable?

A. That is the only reason we would abandon the line.

Mr. Strouss: That is all.

Mr. Mason: We offer the exhibit in evidence as Defendant's Exhibit 162.

Mr. Strouss: No objection.

The Court: It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 162.")

[fol. 2192] Mr. Mason: Referring to certain details in this exhibit, Mr. Masson, I wish first you would refer to item 4. Does the character of the commodities handled have any effect upon the figures shown in line 4.

A. Yes, they would be affected by heavy or light loading.

Q. For example, if the tonnage handled in a particular year consisted in large part or to a more considerable extent than in other years of such commodities as coal or ore, loading fifty tons to the car or somewhere in that neighborhood, would that have an effect upon the net tons per train?

A. Yes.

Q. Suppose that in another year the traffic consisted more largely of light loading commodities such as hay or lettuce would there be a corresponding or to some extent reduction?

A. Yes.

Q. In item 6 you speak of average capacity per freight-carrying car. Does that include only boxcars, or does it include other type of equipment such as open-top equipment?

A. That includes everything, boxcars, flat cars, stock cars, gondola cars, etc.

Q. Oil tank cars if owned by the company?

[fol. 2193] A. Everything, all types of cars.

Q. Does it include refrigerator cars not owned by the company?

A. No.

Q. Is there any relation or coordination between the freight train speed in miles per hour appearing in line 7 and the gross ton miles per freight train hour appearing in line 8?

A. Yes, the faster you run your trains the more tonnage you get over the road within a space of time.

Q. Is there any interdependence as between the figures in line 8 and the figures in line 7?

A. Yes.

Q. Will you explain how the figures in line 8 are dependent, if they are, upon those in line 7 and what other factor enters into the gross ton-miles per freight train hour?

A. The gross ton-miles per freight train hour are determined by taking the gross ton-miles handled in the year and dividing that figure by the total freight train hours. A freight train hour represents the lapse of time from terminal to terminal. As I said before, the faster you run your trains over the road the more tons you will transport over that road in a specified time or in the time [fol. 2194] it takes the train to make the run between terminals. Does that answer your question?

Q. I think you have explained that the figure of gross ton-miles per freight train hour is a function of the speed of freight trains. Does it have anything to do with the loading of the freight trains?

A. Yes.

Q. Perhaps I should ask the question this way, will the figures in line 8 expressing gross ton-miles per freight train hour tend to increase or decrease as the trains become longer and contain more gross tonnage?

A. The more tonnage you cram in a train, the more your gross ton-miles per freight train hour will increase.

Q. Provided you also continue or increase the speed, is that correct?

A. Yes, assuming that we have the same speed as shown in 1939, 16.7, and assuming that we had a greater tonnage moved within the same space of time as is taken into this calculation, the figure shown in 1939 instead of being 36,364 would have been somewhat greater. Does that clear it up?

Q. Yes, I think it does. What is the significance of the figure in line 9, is that equally the function of train speed [fol. 2195] and loading?

A. Yes, and my remarks regarding item 8 would apply with equal force to item 9.

Q. Is item 9 to any extent affected by the character of the commodities handled, whether predominantly light, loading or heavy-loading commodities?

A. Yes, it would be.

Q. Do the figures in item 8 have within them any similar effect?



A. Yes, item 9 is included in item 8.

Q. Referring to item 10, what is the significance of the showing of gross ton-miles per ton of fuel?

A. That indicates an economy of operation.

Q. Will you say whether from your experience as an accounting officer, the figure of gross ton-miles per ton of fuel is in any respect, and, if so, to what respect, an index of the efficiency of locomotive operation.

A. The more work you can get out of a locomotive for a ton of fuel the less will be your expense for that fuel. Therefore, if you have got more gross tons over the road as this indicates over the period of years per ton of fuel, you are certainly saving yourself some money in the operation of the railroad.

Q. Do I understand you to say that all of these operations relate to both main and branch line operations?

A. Yes sir.

Q. Do the lengths of branch line trains enter into the average figure of freight cars per freight train in line 3?

A. Yes, sir.

Mr. Mason: Have you any questions, Mr. Strauss, before we pass to another exhibit?

Mr. Strauss: I think I would rather take up the whole cross-examination at once.

Mr. Mason: Mr. Mason, have you before you an exhibit in one sheet bearing title similar to that of exhibit No. 162, this exhibit relating to the Tucson division for six years, since and including 1930?

A. Yes.

Mr. Mason: May this be marked for identification?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 163 for identification.

Mr. Mason: Was that prepared in the same manner as exhibit No. 162?

[fol. 2197] A. Yes.

Q. I notice that you show a different source. Will you explain the source of the figures in these several items?

A. Exhibit No. 162 as stated was taken from the OS-A reports and the annual reports to the Interstate Commerce Commission; that covers the entire system. There is no corresponding report by divisions but there is a report

rendered according to the same manner that is prepared by divisions for purposes of the management of the company.

Q. Is that form 521 referred to in the source?

A. Yes.

Q. Is form 521 kept monthly and accumulated by months and by years?

A. Yes.

Q. It is kept by divisions, is it?

A. Yes.

Q. By the system as a whole?

A. Yes.

Q. Do the figures on form 521 correspond to the figures reported to the Interstate Commerce Commission on the OS forms to which you have referred?

A. The basic figures do.

The Court: This particular report that you referred to is not prepared for the Interstate Commerce Commission, [fol. 2198] it is merely for the use and enlightenment of the company itself?

A. Yes, it is prepared as I say according to the method prescribed by the Interstate Commerce Commission. As a matter of fact, it is a breakdown of the Interstate Commerce Commission figures.

Mr. Mason: Do the same figures appear on the form 521, plus some others which appear on the forms OS-A, OS-B, and OS-E?

A. Yes.

Q. I understand, and will you correct me if I am incorrect, that form 521 has been requested by and furnished to Mr. Strouss for the Tucson division as well as the system for several years past?

A. Yes.

Mr. Strouss: That is right, I have them.

Mr. Mason: Is form 521 a condensed record regularly kept in the ordinary course of the company's business?

A. Yes.

Q. Based upon individual reports of various matters rendered by the divisions and other sources of original information?

A. Yes.

Q. Are the forms 521 preserved as permanent records [fol. 2490] of the company over a considerable period of

years?  
A. Yes.

Q. Have you available the forms 521 from which exhibit No. 163 for identification was prepared?

Mr. Strouss: I have copies of them myself.

A. We have them in the city but they are not in court inasmuch as they have already been furnished to counsel and I thought it unnecessary to bring them into court.

Mr. Mason: Has exhibit No. 162 been compared against these underlying sources?

A. Yes, sir.

Q. There are certain computations which are indicated and appear on the face of the exhibit. Have those computations been checked?

A. They have.

Q. Will you say whether or not the exhibit is true and correct as reflecting the underlying sources?

A. To the best of my knowledge and belief it is correct.

Q. As to line 6, I will ask you if line 6 is the same for the corresponding years as line 6 of exhibit No. 162?

A. Yes.

Q. Why is that?

[fol. 2200] A. Cars are not assigned to divisions; they are used all over the system. Therefore, the Tucson division has access to the same class and type of cars that other divisions have.

Q. As to average tractive power per locomotive, is that based upon divisional figures?

A. That is based upon assignment of locomotives to a division.

Mr. Mason: Have you any questions on exhibit No. 163, Mr. Strouss?

Mr. Strouss: No, I have none.

Mr. Mason: We offer the exhibit in evidence as defendant's exhibit No. 163.

Mr. Strouss: I do have one question. I notice that exhibit No. 162 relates to years 1922, 1924, 1926, 1928, and 1930 and that exhibit No. 163 does not include those first four years, that is, 1922, 1924, 1926, and 1928.

A. I am glad you asked that question, Mr. Strouss. The facts are these, the limits of the Tucson division were changed several times. The division as now constituted was determined or prescribed as of August 1, 1930. To make these figures comparable, we began with 1930 and when you review these figures for 1930 you will not find them on the 521 that was rendered for the year 1930 but [fol. 2201] you will find them on the 521 that was rendered for the year 1931, at which time the figures were restated to make them comparable because of the change in the limits of the division.

Mr. Mason: Your 521 for the year 1931 would contain figures for the prior year for the purpose of comparison?

A. Yes.

Q. So the 1930 figures appear in the 1931 form?

A. Yes, that is what I meant to convey.

Mr. Mason: Does that answer your question, Mr. Strouss?

Mr. Strouss: Yes.

Mr. Mason: Is the exhibit admitted, Your Honor?

The Court: Yes, it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 163.")

Mr. Mason: Are the figures in column I on this exhibit the per cent of increase and so forth, susceptible of comparison with the figures of per cent of increase appearing on exhibit No. 162?

A. Yes.

Q. Are they predicated upon the same class and method of computation?

A. Yes.

[fol. 2202] Q. The underlying figures which are compared represent the same things, do they?

A. They do.

Q. These variations in mileage in line 1 as between 1930 and subsequent years are simply due to abandonment of branch lines?

A. Yes.

Q. Do those figures include branch line operations on the Tucson division as well as the main line?

A. Yes.

The Court: You will not be able to finish with this witness before noon?

Mr. Mason: No, Your Honor.

The Court: We will recess at this time until 2 o'clock.

(Thereupon the court stood at recess until 2 o'clock P. M. this day, January 14, 1941.)

[fol. 2203]

2 P. M., January 14, 1941.

All parties being present as heretofore noted, proceedings were resumed as follows:

Mr. Mason: Mr. Strouss, this morning in connection with certain testimony or questions of the witness I think I stated there were no valid differentials for mountain districts and for engineers in freight service. I have consulted the agreement with the Brotherhood of Locomotive Engineers and I find there are distinctions between valley districts and mountain districts in Sections 2 and 3 of Article 1 of the engineers' agreement, effective January 9, 1931, but the mountain districts are defined and they do not include any territory in either Nevada or Arizona except that part of the Sacramento division west of Sparks, approximately eighteen or nineteen miles between the California state line and Sparks, I have forgotten just what the distance is.

Mr. Strouss: I assume before you rest your case you will have all of those exhibits?

Mr. Mason: We will have all of those rates of pay in here by exhibit. I will show you the paragraph to which I was referring; I don't want that statement of mine as to lack of differentials to appear in the record although it wouldn't [fol. 2204] materially affect the situation we were discussing this morning. I have also here the current firemen's, conductors', and trainmen's agreement which covers the rates of pay for brakemen, conductors, and firemen which will indicate the rate per 100 miles in each of the districts with which we are concerned, but those are likewise shown by exhibit in connection with our later showing.

Q. Mr. Masson, I think I asked you during the course of the examination this morning if you would make a calculation of the average cars per train in Arizona during the



four-year periods which are referred to on exhibit No. 151, 160, and 161 for the purpose of making the comparisons in showing the trends of averages of freight operating and freight transportation expenses. Have you those figures as calculated from exhibit No. 149?

A. Yes.

Q. What was the average cars per train in Arizona calculated from exhibit No. 149 for the period 1922 to 1925, inclusive?

A. 54.42.

Q. What was the average cars per train for the years 1936 to 1939, inclusive?

A. 53.85.

Q. Referring to exhibit No. 150. For the four-year [fol. 2205] period, 1922 to 1925, inclusive, what was the average cars per train for the state of Nevada?

A. 53.09.

Q. That is the figure that corresponds to the 54.42 you just recited?

A. Yes, sir.

Q. What is the average cars per train for Nevada for the four years, 1936 to 1939, inclusive?

A. 76.28.

The Court: Does the Nevada Train Limit Law, which I understand is somewhat similar to the Arizona law, have any bearing on the figures you have just given?

A. No, sir, the Nevada Train Limit Law never became operative.

Mr. Mason: Your Honor, as the report will show in the Federal court, 18 Fed. 2nd 393, we obtained a temporary injunction shortly before the effective date of the statute which was continued in effect pending the trial and was followed by a permanent injunction dated February 23, 1937, so that the Nevada law never actually became effective and was never observed.

Q. Our last exhibit was No. 163, was it not?

A. Yes.

Q. I hand you a statement in one sheet entitled "Southern Pacific Company-Pacific Lines, Freight Service Operating Averages, Salt Lake Division." May that be marked No. 164 for identification?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 164 for identification.

Mr. Mason:

Q. From what sources was exhibit No. 164 prepared?

A. As shown in the lower section of the exhibit. The basic data were computed first from the form 521 and item 5 is based on the locomotives assigned to the division. Item 6 is the same as is shown on exhibit No. 162 for the system.

The Court: Mr. Masson, with reference to this exhibit No. 164 and the previous one, when you referred to the Tucson division and Salt Lake division do you have reference to that territory embraced in what is designated as a division in exhibit No. 154?

A. Yes, sir.

Mr. Mason: I will ask you, is exhibit No. 164 for identification made up in the same way and from sources exactly similar to those used in preparing exhibit No. 163?

A. Yes.

Q. Except that the forms 521 here used are those prepared [fol. 2207] for the Salt Lake division?

A. For the Salt Lake division.

Q. It goes back to the year 1930, I notice. Is that in order to make it comparable with exhibit No. 163 relating to the Tucson division?

A. Yes, inasmuch as we began the exhibit with 1930 for reasons that I stated, the Salt Lake division was confined to the same period of years for comparative purposes.

Q. Do I understand that these forms 521 are kept by operating divisions rather than by states?

A. By operating divisions, yes, sir.

Q. Would it be possible to prepare from the forms 521 a showing for the state of Nevada or the state of Arizona as distinguished from either of these two divisions?

A. No.

Q. Is that the reason for showing the Salt Lake division instead of the state of Nevada?

A. Yes, sir.

Q. And the same way for the Tucson division instead of the state of Arizona?

A. Yes.

[fol. 2208]. Mr. Mason: Has the showing on exhibit 164 been checked as to the original figures, and checked also as

to the computations to determine whether they are true and correct?

A. They have been spot-checked by me.

Q. Will you say whether or not, in your opinion, the exhibit is true and correct?

A. It is correct to the best of my knowledge and belief.

Q. Is it also true that the forms 521 for the Salt Lake Division for the years covered here have been furnished to Mr. Strouss?

A. Yes.

Mr. Mason: Is that correct, Mr. Strouss?

Mr. Strouss: Yes, I have them.

Mr. Mason: Have you any questions, Mr. Strouss, before the exhibit is offered?

Mr. Strouss: Yes, I have one.

Q. Mr. Masson, are there any formulae that enter into the preparation of this exhibit?

A. No, there is no formula as such. Miles is a straight record; the figures freight-train-miles is an accumulated figure from wheel reports, the net ton-miles the same, the average tractive power of locomotives is a record figure, average capacity of freight carrying cars is of record in [fol. 2209] the annual reports, the freight train speed is simply a computation from the form 521.

Q. Well, these items now that are in the annual reports, they are not computed according to any formula of the Commission of Nevada?

A. Well, this is—the average tractive power for locomotives is not computed according to the I. C. C. or any formula laid down by the I. C. C. It is simply the tractive power of engines assigned to the division, divided by the number of engines.

Q. I don't mean that. Is there any one item of these ten items here which would be computed or in which the computation would involve a formula required by the Nevada Commission similar to the allocation of expense and revenues?

A. No.

The Court: In other words, I think what Mr. Strouss is getting at, the Company prescribes the formula rather than any state commission.

A. No, sir. These figures are computed in the same manner, using the factors of the same nature as is used in pre-

paring information for the Interstate Commerce Commission on Form OS-A. This is well known and established statistics that have been used over a long period of years, [fol. 2310] it has been known and almost, you might say, evolved from constant use back over a period of years that the train-miles shall be accumulated from the wheel reports.

The Court: Let us put it another way, Mr. Masson: Now, you testified with reference to certain other exhibits that they were not exactly comparable by reason of the different requirements of the State regulatory commissions?

A. Yes, Sir.

Q. However, now you are submitting an exhibit one that shows this statistical data for the Tucson Division, and this last exhibit, No. 164, the statistical data for the Salt Lake Division; now, at least as to those two exhibits, the one covering the Salt Lake Division, and the one covering the Tucson Division, they are prepared; I take it, that is, they are prepared in accordance with exactly the same formula.

A. The same formula doesn't apply to this. The formula prescribed by the states prescribes the allocation of revenues and expenses. This is simply mathematical computation from those basic figures that have been determined from those formulae.

The Court: Then these figures are comparable.

[fol. 2211] Mr. Mason: Are there any formulae involved in accumulating miles of freight trains operated?

A. No.

Q. Are there any formulae involved in accumulating freight car-miles operated?

A. No.

Q. Those are figures that appear on basic reports?

A. That is true.

Q. The wheel reports. Is there any formula other than a straight division of freight train car-miles, or freight train miles in getting freight train car-miles?

A. No.

Q. His Honor asked whether the formula or method, he might have said, involved in obtaining the results on exhibit 164, are the same as or in any respect differ from those used in obtaining the results on exhibit 163?

A. No, no difference.

Q. They are identical basic records?

A. Yes.

Q. Except that the basic records, such as the showing of train operations and train loading for the Tucson Division, are used in one case, and the one for the Salt Lake Division [fol. 2212] is used in the other?

A. Yes.

Q. This does not involve any use at all of State Commission formulas as to the two states?

A. No.

Q. Does the State Commission of Nevada in the case of the Salt Lake Division, or the State of Arizona in the case of the Tucson Division, have anything at all to do with these figures appearing on exhibits 163 and 164?

A. No, it doesn't.

Mr. Mason: Does that make it clear?

The Court: Yes.

Mr. Mason: I will offer the statement as Defendant's Exhibit No. 164 in evidence.

Mr. Strauss: Objected to as irrelevant and immaterial.

The Court: The objection is overruled. It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 164.")

Mr. Mason: Mr. Masson, are there any particular figures on Exhibit 164 to which you wish to direct attention in connection with Exhibit 163?

[fol. 2213] A. Yes, the comparison drawn from the last column which expresses the per cent of increase.

Q. Comparing 1939 with 1930?

A. Yes; the freight cars per freight train in Arizona decreased.

Q. In Arizona, or on the Tucson Division?

A. On the Tucson Division, I should say, decreased 2.2 per cent; on the Salt Lake Division, they increased 10.8 per cent. The net tons per train, net tons per freight train on the Tucson Division increased 10.2 per cent. On the Salt Lake Division they increased 17.7 per cent. The average tractive power for locomotives on the Tucson Division increased 11.6 per cent, and on the Salt Lake Division it increased 35.5 per cent. The average capacity of the freight carrying cars, of course, are the same for the System as on all divisions. The capacity of freight carrying cars increased 2 per cent on the System. On the Tu



son Division and on the Salt Lake Division. Freight train speed on the Tucson Division increased 21.7 per cent, on the Salt Lake Division 21.1 per cent. Gross ton-miles per freight train-hour increased on the Tucson Division 28.3 per cent; on the Salt Lake Division 41.8 per cent. Net ton- [fol. 2214] miles per freight train-hour increased on the Tucson Division 33.8 per cent; on the Salt Lake Division 42.2 per cent. Gross ton-miles per ton of fuel increased on the Tucson Division 8.8 per cent; on the Salt Lake Division 15.3 per cent.

Q. Have you before you, Mr. Masson, a statement in one sheet entitled "Average Freight Revenue Per Train-Mile, Car-Mile, and One Thousand Revenue Ton-Miles, Pacific Lines, Compared with States of Nevada and Arizona, Respectively?"

A. Yes.

Mr. Mason: May the statement be marked "Defendant's Exhibit 165 for identification?"

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 165 for identification.

Mr. Mason: Did you prepare exhibit No. 165, or have it prepared, Mr. Masson?

A. I had it prepared; it was prepared under my supervision and direction.

Q. From what sources?

A. Items 1, 2 and 3, annual reports to the Interstate Commerce Commission, Public Service Commission of [fol. 2215] Nevada, and Corporation Commission of Arizona.

Q. Do the figures in items 1 and 2 for the System, and each of the two states, appear as such in the annual reports?

A. Items 1 and 2, years 1923 to 1935, inclusive, appear in Schedule 531, entitled, "Statistics of Rail-Line Operations" of the annual report to the Interstate Commerce Commission, and the corresponding schedules of annual reports to the respective states. However, as such averages are not required in the annual reports for the years 1936 to 1939, they have been computed for the purposes of this exhibit.

Q. Is that computation straight division of total freight revenue divided by the total freight service train-miles or the total loaded freight train-miles in the other as reported to the several commissions?

A. Yes, the basic figures appear in the annual reports. [fol. 2216] Mr. Mason: Are the figures for 1936 to 1939 for the two states reported as such or are they computed figures as well?

A. They are computed figures.

Q. They are all computed figures for the last four years?

A. Yes.

Q. Revenue per 1,000 ton-miles of freight, is there in the annual report an entry of the average revenue per ton-mile?

A. Yes.

Q. You obtained these figures here simply by moving the decimal point three places?

A. Yes.

Q. Has the exhibit been checked against the underlying sources?

A. Yes, sir.

Q. Where such computations are reflected in these figures, have those been checked?

A. Yes, sir, they have been spot-checked by me.

Q. Will you say whether or not in your opinion the exhibit is true and correct?

A. It is correct to the best of my knowledge and belief.

Mr. Mason: Have you any questions, Mr. Strouss?

[fol. 2217] Mr. Strouss: No questions.

Mr. Mason: We offer the exhibit in evidence as defendant's exhibit No. 165.

Mr. Strouss: I object to it as irrelevant and immaterial.

The Court: Objection overruled, it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 165.")

Mr. Mason:

Q. As between the items designated by the column headings 1, 2, and 3 on exhibit No. 165, Mr. Masson, which of the three, if any, is affected by increases or reductions in average train lengths?

A. Column 1, item 1.

Q. Item 1 being "Freight Revenue per Freight Service Train-Mile"?

A. Yes.

Q. Does the item of "Freight Revenue per Loaded Freight Car-Mile" in and of itself bear any result of long or short train operation?

A. No.

Q. Would the same be true as to revenue per 1,000 ton-miles?

A. Yes.

Q. Primarily what factors, if any, are determinative of [fol. 2218] the level figure per 1,000 ton-miles of freight in any year?

A. Rate has something to do with it and the length of haul.

Q. The length of haul being set aside for the moment, does the average revenue per 1,000 ton-miles or the average revenue per ton-mile reflect to any extent the average level freight rate?

A. Yes.

Q. And of the freight rate structure?

A. Yes.

Q. Does that factor plus any other factor enter into the figure of freight revenue per loaded freight car-mile, speaking of that figure in a generic sense?

A. Yes; it does.

Q. What is the other factor that enters into the revenue per loaded freight car-mile in addition to the revenue per ton-mile?

A. The distance hauled.

Q. Does the distance hauled enter into the unit revenue per car-mile?

A. Yes, it does, and the loading has something to do with it.

Q. Isn't it a fact that it is the loading times the revenue per ton-mile that enters into it?

[fol. 2219] A. I don't understand it that way. In determining this you would simply use as a factor your total car miles and your total revenue.

Mr. Strouss: Pardon me just a moment. I don't like to object to leading questions but I will have to on questions like the last one.

The Court: Yes, it was leading.

Mr. Mason: I know it was leading and I didn't like to ask it in that form.

Q. As between two successive years, whether it be for the system or either of the states, Mr. Masson, what factors affect the unit revenue per loaded car-mile?

A. The revenue for the load and the miles hauled.

Q. Will the miles hauled have any effect upon the revenue per mile?

A. It will, yes.

Q. How? I don't think my question is clear to you. I would like to have you explain that to me.

A. The longer distance you haul a car for a stated revenue the less your revenue per car mile will be.

Q. But here we have, Mr. Masson, a revenue per ton-mile?

A. Yes.

[fol. 2220] Q. That revenue per ton-mile doesn't depend upon distance, it is just a division as I understand it between the total revenue and the total number of ton-miles made, isn't that correct?

A. Yes.

Q. You just take all your ton-miles on the one hand and all your freight revenue on the other and divide and you get the figure here?

A. Yes, and you do the same thing with your car-miles.

Q. I don't think you have understood me. Having a unit revenue per ton-mile, does that figure combined with any other consideration affect the revenue per freight car-mile?

A. Naturally it would.

Q. What is that other consideration?

A. The rate, if you have a lower rate, naturally your revenue per ton-mile will be low.

Q. I am getting at the revenue per car-mile. You have the revenue per ton-mile and that as I understand you is an expression of the rate?

A. That is true.

Q. Having that and your loaded freight car-mile, what factor combined with the revenue per ton-mile produces the revenue per car-mile, if you please?

[fol. 2221] A. I am sorry, I don't understand the question.

Q. All right, I will not lead you any further, I thought it would be perfectly obvious. Mr. Masson, of what is the load in a freight car made up expressed in weight?

A. Tonnage.

Q. Perhaps we can return to the subject again. Having expressed already revenue per ton for the movement of that car one mile, what factor combined with that revenue figure would you use in determining the revenue for the movement of the car one mile if it contains that tonnage?

A. I would use the revenue for that tonnage.

Q. How would you obtain the revenue for the total tonnage loaded in the car if you had the revenue for one ton?

A. Multiply it by the tons.

Q. By the loading?

A. By the loading, yes.

Q. To put it in one sentence, isn't freight revenue per loaded freight car-mile a combination of loading plus revenue per ton-mile?

A. Yes, certainly it is, I thought that was obvious.

Mr. Mason: It was, but it wasn't in the record.

[fol. 2222] Q. Let's go to column 1 because there we will obtain the result of some other computations. Having the revenue per loaded car-mile which I think we have established as the product of ton-mile revenue plus loading—

A. (Interrupting:) It is not the profit.

Mr. Mason: I understand it is not the profit, it is the gross.

A. I understood you to say "profit."

Mr. Mason: "Product" is what I said.

A. I beg your pardon.

Q. Having established how the freight revenue per car-mile is affected by loading and ton-mile revenue, is there any factor combined with the revenue per freight car-mile which affects revenue per train-mile?

A. Yes, the number of cars in a train affects it.

Q. Provided only that they were revenue cars, I take it?

A. Naturally.

Q. Will you turn to a statement entitled "Revenue Freight Carried by Pacific Lines, Year 1939"?

A. Yes.



Mr. Mason: May we have that marked No. 166 for [fol. 2223] identification?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 16 for identification.

Mr. Mason: Did you prepare exhibit No. 166 or cause it to be prepared?

A. Yes, I caused it to be prepared.

Q. From the source as shown in the note at the foot of the exhibit?

A. Yes.

Q. This exhibit is similar in form to exhibits introduced by witnesses for other carriers who have testified here; is it not?

A. Yes, sir.

Q. Are there any computations on the face of the exhibit which you yourself made?

A. The line entitled "Total perishable products of agriculture—Classes 110 to 143, inclusive" are additions made by me or at my direction.

Q. What figures were added to produce the totals shown in that line?

A. The figures from Classes 110 to 143 as shown in column A.

Q. In each of the columns C to G, inclusive, are the figures in the lines 110 to 143 added together to produce the figure next below?

[fol. 2224] A. Line 800, you speak of?

Q. No.

A. In each of the columns the total opposite line, total perishable products of agriculture, the total therein shown or opposite that line shown is the sum of classes 110 to 143.

Q. Are those figures which appear as the totals of classes 110 to 143 included within the totals appearing on lines 800 and 850?

A. Yes.

Q. These figures are taken, except as to that addition, directly from the annual report to the Interstate Commerce Commission?

A. Yes.

Q. Has the exhibit been checked against the original sources?

A. Yes.

Q. The additions have been checked, have they?

A. Yes.

Mr. Mason: Have you any questions, Mr. Strouss?

Mr. Strouss: No questions.

Mr. Mason: We offer the statement as defendant's exhibit No. 166.

Mr. Strouss: I object to it as irrelevant and immaterial. [fol. 2225] The Court: Objection overruled, it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 166.")

Mr. Mason: Will you turn to a statement entitled "Revenue Freight Carried within the State of Arizona, Year 1939"?

A. Yes.

Q. Did you prepare this exhibit or cause it to be prepared?

A. I had this exhibit prepared and it was prepared under my supervision and direction.

Q. From the annual report to the Corporation Commission of the state of Arizona?

A. Yes.

Q. Are there any computations on the face of the exhibit?

A. The total of items 110 to 143 appearing in columns C, D, E, and F are computations.

Q. Column C, you say "Cars Originating on Line within the State." Just what does that mean?

A. The explanation of the column is shown at the bottom of the exhibit.

Q. Those are cars originated by the Southern Pacific, are they?

A. Yes, sir.

[fol. 2226] Q. And originating at points in Arizona?

A. Yes, sir, exclusively.

Q. Column D, are those cars handled by the Southern Pacific but not originated in Arizona?

A. Yes.

Q. What does column E indicate with relation to columns C and D?

A. That is a total of columns C and D made up of cars originating on the lines and all other cars handled within the state.

Q. As to column F, your explanation indicates that they are included within the preceding columns?

A. Yes, sir.

Q. Those are cars delivered within the state, are they?

A. Yes.

Q. If a car originated on the Santa Fe in Arizona and was received by the Southern Pacific at the junction and handled thence by the Southern Pacific, within which column would that appear?

A. Column D.

Q. If this car originated at a point in California and was handled across Arizona and delivered at a destination beyond Arizona, in which column would it appear?

[fol. 2227] A. Column D.

Q. If a car originated at Yuma and was handled by the Southern Pacific Company to a destination by the Southern Pacific Company to a destination beyond the state, where would that appear?

A. In column D.

Q. If it originated at Yuma?

A. It would appear in column C.

Q. If it originated at Yuma and was delivered at Tucson, would it also appear in column F?

A. Yes.

Q. Has the exhibit been checked to determine its correctness?

A. Yes.

Q. Will you say whether or not it is true and correct?

A. It is true and correct to the best of my knowledge and belief.

Mr. Strouss: Does this include cars originating in Mexico?

A. Handled through the state or into the state, yes.

Mr. Mason: We offer the statement in evidence as defendant's exhibit No. 167.

Mr. Strouss: No objection.

The Court: It may be admitted.

(The document referred to was received in evidence and [fol. 2228] marked "Defendant's Exhibit No. 167.")

Mr. Mason: Have you a statement before you in one sheet entitled "Revenue Freight Carried within the State of New Mexico, Year 1939"?

A. Yes.

Mr. Mason: May we have that statement marked "Defendant's exhibit No. 168" for identification?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 168 for identification.

Mr. Mason: Did you prepare exhibit No. 168 for identification or cause it to be prepared?

A. I had this exhibit prepared, it was prepared under my supervision and direction.

Q. From the annual report to the New Mexico commission?

A. The annual report to the Corporation Commission of the state of New Mexico.

Q. For the year 1939?

A. Yes.

Q. Was this prepared in the same manner as exhibit No. 167?

A. Yes.

Q. And the significance of the columns is as explained in the footnotes?

A. Yes.

[fol. 2229] Q. And the same as corresponding columns on exhibit No. 167?

A. Yes.

The Court: Mr. Masson, you may not be able to answer this question, but does the fact that in column C there are no figures there and it appears blank, which would indicate that the state of New Mexico produces none of these perishable products, does that mean that your lines don't haul them or that none are actually produced in the state?

A. That means that our line did not originate any of these perishable products in New Mexico. The state may produce them.

The Court: Your records do not disclose that?

A. Our records show that we originated no such traffic in New Mexico.

Mr. Mason: It is indicated there that the company did originate a certain number of cars of agricultural products within the state but those were all other than perishable?

A. All other than perishable as identified by these items 119 to 143.

Mr. Mason: Have you any questions, Mr. Strouss?

Mr. Strouss: No.

Mr. Mason: I don't know that the record shows, but if not, [fol. 2230] will you state whether the annual report to the New Mexico commission for the year 1939 is available here in the courtroom or in the city at the present time for Mr. Strouss if he wishes to examine it?

A. Yes, they are in the city.

Mr. Strouss: I would like to get it when you have finished with your testimony.

Mr. Mason: This report and any of the other New Mexico commission reports that we may use will be furnished.

Q. You show all other cars handled on line within the state in column D here, Mr. Masson. Would that include cars which in the year 1939 moved or were handled in the state of Arizona, if not delivered in that state, and which moved over the Arizona-New Mexico boundary?

A. It would include a majority of those cars which originated in Arizona and moved out of the state.

Q. Which are shown on exhibit No. 167 as "All Other Cars Handled on Line within the State of Arizona" if those cars moved over the Arizona-New Mexico boundary?

A. Eastbound it would include those cars.

Mr. Mason: We offer exhibit No. 168 in evidence.

[fol. 2231] Mr. Strouss: I object to it as irrelevant and immaterial.

The Court: Objection overruled, it may be received.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 168.")

[fol. 2232] Mr. Mason: Mr. Masson, have you a statement in one sheet bearing the title "Revenue Freight Carried Within the State of Nevada, Year 1939?"

A. Yes.

Mr. Mason: May we have the statement marked "Defendant's Exhibit No. 169 for identification?"

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 169 for identification.

Mr. Mason: Did you prepare Exhibit No. 169, Mr. Masson?

A. That exhibit was prepared under my supervision and direction.



The Court: Mr. Mason, just what is the purpose of these two last exhibits, the one showing the perishables and agricultural products handled in the state of New Mexico and the state of Nevada?

Mr. Mason: Well, they complete the picture of the Company's traffic as between perishable products and other freight, which is first of all contained in Exhibit 166; that is for the System, of course, then continued on Exhibit 167, which shows what the nature of the traffic handled in Arizona is as between perishable products, agricultural traffic [fol. 2233] and other classes.

The Court: Well, that is just a break-down then of 166 by states?

Mr. Mason: Yes, it is really a showing of how much of this traffic and how much of it by classes—of course, agricultural and perishable products are segregated here—is carried in the three states. Now, in the complaint, or, rather, in the answer, the allegation is made that a large part of the traffic handled by the Company is perishable traffic and it is further alleged that a large part of the traffic handled on the line affected by the Arizona law is perishable traffic, and that a large part of the Company's business consists of agricultural products which must, as we further allege and which we shall show by other witnesses, receive expedited service in order to reach the market. We also show that a large part of the perishable traffic and a large part of the traffic across Arizona is interstate. We have previous exhibits which show the break-down between interstate and intrastate. Here we show how much of this perishable traffic is of the total, and how much of that is intrastate and handled across the state. The New Mexico showing is re- [fol. 2234] lated to the same through line which crosses Arizona, which in previous testimony is part of a through line across Arizona to principal markets. Then, in our answer we have also alleged that the traffic across Nevada, which state of course we shall undertake to compare with Arizona, is similarly largely perishable traffic and largely interstate. This showing as to Nevada tends to carry forward that the character of the Nevada traffic not in the total is not simply similar as to volume but in its characteristics it is similar. I think you will find an allegation in the answer that covers what we attempt to show by Exhibit 169.

Q. Was Exhibit 169 for identification prepared in the same manner as Exhibits 167 and 168?

A. Yes.

Q. And the source is the Annual Report to the Nevada Public Service Commission for 1939?

A. Yes.

Q. Will you say whether or not the explanation made of the preceding exhibits as to those sources apply also to this exhibit?

A. It does, yes.

Mr. Mason: Have you any questions on No. 169, Mr. Strouss?

[fol. 2235] Mr. Strouss: Just one question.

Q. The grand total of earload traffic, that means the total amount of earloads of traffic, column C, which originated in that state in 1939?

A. On our line.

Q. All of the different types of traffic?

A. Yes; originating on our line, the Southern Pacific, not all traffic originating in the state which may have moved over our line. All types of traffic is shown in column C.

Q. If it came to you from some other carrier but originated in the state it wouldn't be there?

A. Not in column C, no, it would be in column D.

Q. The two, then, combined would cover all traffic which originated in the state of whatever type?

A. No; the two combined would include traffic originating on our line within the state, traffic originating on foreign lines within the state handled by our lines, traffic handled through the state by our lines.

Mr. Strouss: That is all.

Mr. Mason: Is that clear now?

Mr. Strouss: I think so.

Mr. Mason: We offer the exhibit as No. 169.

[fol. 2236] Mr. Strouss: Objected to as irrelevant and immaterial.

The Court: The objection is overruled. It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 169.")

The Court: We will take our mid-afternoon recess at this time.

(Thereupon, a short recess was taken, after which the witness L. J. Masson was recalled to the stand, and proceedings were resumed as follows:)

Mr. Mason: Now, referring to Exhibit No. 169, Mr. Masson, does that exhibit indicate the percentage or any percentage which may exist as between interstate and intrastate carload traffic in the state of Nevada for the year 1939?

A: Well, taking the traffic as a whole, out of 201,497 cars handled on the line within the state, that is in and out and through, only 5,351 cars originated in the state on our line; so that this exhibit indicates the predominance of interstate traffic within the State of Nevada.

Q: Is there any substantial volume of intrastate Nevada traffic received from connections in that state on our rail- [fol. 2237] road and moved by our railroad?

A: There is no substantial volume, no.

Q: Would it affect the indicated relationship of interstate and intrastate on this exhibit to any appreciable degree?

A: No.

Q: Have you made studies other than the study represented by exhibit 169 of and predicated upon records of the Company with relation to the relative volume of interstate and intrastate traffic handled in the state of Nevada?

A: I did make a study of that kind some time ago, some years ago. The fact is, I know that the interstate traffic was about ninety per cent, way over ninety per cent.

Q: Was it between 90 and 95 per cent, or more than 95 per cent?

A: I have some data here, if you will let this question rest I will give you a definite figure later on.

Q: Is the showing of relative percentages of possible intrastate and interstate traffic on exhibit 169 fairly representative of other years which you have stated?

A: Yes, it is.

[fol. 2238] Mr. Strouss: Are you about to leave this exhibit?

Mr. Mason: Yes.

Mr. Strouss: I would like to ask one or two questions.

Mr. Masson: Certainly.

Mr. Strouss: I am now again confused on this freight originating within the state. Did I understand you to say that the number of cars shown in column C related to the number of cars shown in column D would indicate the percentage of interstate and intrastate traffic?

A. Yes, it would be an indication of it. Intrastate and interstate, notice that there are 5,351 cars originated in the state.

Q. But that is not just intrastate traffic, it may originate there but move again out of the state and, if so, would be interstate traffic, would it not?

A. If any one part of that moved out of the state, it would be interstate, yes.

Q. So that the figures 5,351, representing the cars originating on the line within the state, do not necessarily mean intrastate traffic?

A. No; no, I didn't mean to convey that. What I meant to convey was that this was an indication of the predominance of interstate traffic.

Q. You mean predominance of interstate in the sense of traffic using Nevada as a bridge state compared with traffic originating within the state?

A. Yes.

Q. That is the sense in which you were referring to it?

A. Yes.

Mr. Mason: I think his answer was this, Mr. Strouss, that the 5,351 is the highest possible figure of intrastate cars that could have moved originating on our railroad in 1939, because those are the cars that originated within the state and, of course, as indicated, although not expressed in the answer, if any of those moved beyond the state, the figure of intrastate originating and terminating within would be somewhat smaller.

Mr. Strouss: I was just trying to find out if that is the highest number of cars of intrastate.

Q. Did you understand me correctly when I asked you, before the exhibit was received in evidence, this only represents cars which originated on your own line?

A. That is true.

Q. If there were other cars which originated on other lines than your own, then delivered to you as a connecting carrier and you in turn carried those but only within the

state, they would still be in column D; but would be intrastate traffic?

A. That is true.

Q. So that column D may include intrastate traffic as well as interstate?

A. It may.

Mr. Mason: Now, as a matter of fact, Mr. Masson, are there any short-line connections of the Southern Pacific in Nevada, and, if so, name them in 1939.

A. Short-line connections?

Q. Yes.

A. That excludes our connections with the Western Pacific?

Q. I am going to ask you about those as well.

A. We have at Coble, Nevada, the Nevada Northern Railway.

Mr. Strouss: Where is that?

A. Coble.

Mr. Mason: That line lies entirely within Nevada, does [fol. 2241] it?

A. Yes. Nevada Copper Belt Railroad at Wabuska; the Tonopah and Goldfield at Mina. Those are about the only short lines.

Q. Is there the Virginia & Truckee at Reno?

A. Yes, there is.

Q. Now, are there any trunk line connections?

A. The Union Pacific at Wells, and the Western Pacific at several points.

Q. The Western Pacific at Reno and at all points between Winnemucca and Wells?

A. Yes.

Q. Now, does the Southern Pacific receive any substantial volume of intrastate traffic from any of those four short-line connections that you have mentioned?

A. We receive no substantial amount; just how much I can't say, at present.

Q. Well, would it exceed 500 cars a year from all four of them, intrastate traffic?

A. I question whether it would.

Mr. Strouss: You say from all four of them?



Mr. Mason: Yes, the Nevada Northern, the Nevada Copper Belt Line, the Tonopah and Goldfield, and the Virginia & Truckee.

Mr. Strouss: You are not including the Union Pacific [fol. 2242] or the Western Pacific?

Mr. Mason: No, those are trunk-line connections. I distinguished between trunk-line and short-line connections.

The Witness: I think I have something here that will enable me to answer your question. The study I made sometime ago on traffic moving from 1930 to 1934 showed that 99 per cent of the traffic, of the freight revenues in the state of Nevada were interstate, were derived from interstate traffic, and about the same percentage of ton-miles within the state of Nevada represented interstate traffic.

Q. Now, do you know, and if so, will you state whether the Southern Pacific receives from the Union Pacific or the Western Pacific any substantial volume of carload traffic originating at and destined to points within the state?

A. No, I don't believe there is any substantial amount of traffic.

Q. By substantial, I mean in excess of, let us say, fifty or 100 cars a year?

A. I am not in position to answer that definitely.

Q. You say that your studies previously made indicate [fol. 2243] that 99 per cent, approximately, of the revenue received by the Company from freight service and the ton-miles handled in Nevada, were interstate?

A. Yes.

Q. That applies to all traffic, whether inter-line or local traffic, does it?

A. Yes.

Q. I will ask you to refer to the annual report to the Nevada Commission for the year 1939, to schedule 710, and to line No. 1, Item 101, on page 700 of that annual report, and state the figures reported to the Nevada Commission as to revenues earned within the state on intrastate traffic and on interstate traffic?

A. Revenues earned within the state of Nevada on intrastate traffic for the year 1939 was \$58,878; revenues earned on interstate traffic within the state of Nevada was \$18,300,291. The total freight allocated to the state of

Nevada in the year 1939, total freight revenue I should say, was \$18,323,903.

Q. Are those revenues apportioned to the State on the prorata basis that you spoke of?

A. Those revenues are apportioned to the State on a mileage prorata basis.

[fol. 2244] Q. Is that the same as is used in Arizona in proportioning revenue?

A. Yes.

Mr. Strouss: You mean the same formula in each state?

A. Yes, apportioned to the state, apportioned according to the mileage hauled within the state, the ratio of miles in the state to the total miles hauled.

Q: The same formula is used in Nevada?

A. Yes.

Mr. Mason: Has No. 169 been offered and received?

The Court: I don't think so, Mr. Mason.

The Clerk: It was admitted, yes, just before we took our recess.

\* Mr. Strouss: Might I ask, we haven't developed what the cars, total cars originating in the state, both on your line and connecting lines is. Could you get that figure without a great deal of trouble as to all three states?

Mr. Mason: Cars originating on line and on connecting lines within the state?

Mr. Strouss: Within the state, originating within the state.

The Court: May I suggest to the witness, because apparently [fol. 2245] he hasn't some of this data available to give the information, that he have it tomorrow morning.

Mr. Strouss: I meant, could it be gotten without too much trouble?

The Witness: No, we have to re-work the details.

Mr. Mason: These figures, as I understand, are taken, so far as cars originating on line are concerned, are taken from annual reports?

A. Yes.

Q. And are readily available there, but to get the statistics for these three states of cars from connecting lines within the state—

A. We would have to pick out the cars originating on foreign lines. We make no distinction of that kind in our statistics.

Q. What would that involve, a check of waybills?

A. Yes, it would, a check of the movement going back to the waybills.

Mr. Strouss: If it is a great deal of trouble, I won't ask for it.

The Witness: It can be had, you know.

Mr. Mason: Would it be a special job as distinguished [fol. 2246] from these statistics in the ordinary course?

A. Yes, sir.

Mr. Mason: Would you still wish it?

Mr. Strouss: No, I will waive it.

Mr. Mason: Now, as to the next exhibit, have you a statement before you, Mr. Masson, in one sheet entitled "Segregation of Freight Car-Miles in States of Nevada and Arizona and for Pacific Lines as a Whole?"

A. Yes.

Mr. Mason: May we have that marked No. 170?

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 170 for identification.

Mr. Mason: Did you cause Exhibit No. 170 for identification to be prepared, Mr. Masson?

A. Yes.

Q. From what sources?

A. It was prepared from the underlying records in our office. The total agrees with the annual reports, as shown in the footnotes, and items 1 to 4 are simply a break-down of the total as between these various classes of cars.

Q. When you say "underlying records" in your office, are those the wheel reports or the intermediate computations [fol. 2247] prepared from the wheel reports?

A. The accumulated records from the wheel reports.

Q. Are those regularly prepared in the office of the auditor of Equipment Service Accounts?

A. Yes.

Q. Are these computations of movement of foreign line, Pacific Fruit Express Company and other private car line cars necessary in the course of the Company's business?

A. Yes.

Q. Do you base car rental payments to any extent upon the statistics of car-miles for P. F. E. and other private car line cars?

A. Yes; not only that, taxes are assessed on the basis of miles made by private line cars within states.

Q. Are the mileages within the several states necessary for these several purposes?

A. Yes.

Mr. Mason: Mr. Strauss, will you wish those intermediate records for the purposes of this exhibit?

Mr. Strauss: No.

Mr. Mason: Has the exhibit been checked against the underlying records, Mr. Mañon?

[fol. 2248] A. Yes, sir.

Q. And what as to the computations in columns D, F and H; were those made by yourself?

A. Those were computations made at my direction and under my supervision to indicate the percentage of the respective classes of miles made.

[fol. 2249] Mr. Mason: Are these computations made from the total figures on the figures by classes which appear in columns C, E, and G?

A. Yes.

Q. So that the percentage figures in column D for the lines 1, 2, 3, and 4 add up to one hundred in each case in line 5?

A. Yes.

Q. Have these percentages and other computations been checked as well as the original entries?

A. Yes, they are correct according to the best of my knowledge and belief.

Q. These other private car-line cars, would that include only refrigerator cars or would other types of equipment be included?

A. It would include tank cars and private refrigerator cars owned by packing houses and so on.

Q. Would it include F. G. E. refrigerator cars?

A. Yes, sir, S. F. R. D. cars.

Q. Would S. F. R. D. cars go under "private car lines" or under "foreign lines"?

A. Private car lines, they are on a mileage basis—pardon me, your question just dawned on me, you asked if

the S. F. R. D.'s would go under foreign lines or private car lines and my answer was wrong. It should go under foreign lines, S. F. R. D., the Santa Fe owned refrigerator [fol. 2250] cars.

Q. Does this include empty as well as loaded movement of these cars?

A. Yes, sir.

Q. Is there any formula used to apportion these mileages to the several states or what is the method of obtaining the mileages for the several states?

A. It is the actual miles made within the state as computed from the wheel reports.

Q. Are these figures in essence simply an aggregation of the mileage appearing on the individual wheel reports?

A. Yes.

Mr. Mason: Have you any questions, Mr. Strouss?

Mr. Strouss: I notice item 4, cars owned by Pacific lines, do you distinguish between Pacific lines and Southern Pacific Company there?

A. There would be no distinction there because all cars owned by the ~~Southern~~ Pacific Company are all operated by Pacific lines or affiliated lines. These are cars of Southern Pacific ownership making miles on Pacific lines.

Mr. Mason:

Q. Do you distinguish in that connection between cars [fol. 2251] stencilled with the name "Texas and New Orleans" or the other Texas and Louisiana companies?

A. Yes, that is distinguished as shown by that note. The Texas and New Orleans cars are included in the foreign line cars.

Q. Suppose that a car of Pacific Electric ownership is handled on the company's lines, where is that shown?

A. That is shown in foreign lines.

Q. Suppose it is a Northwestern Pacific car?

A. That is shown in foreign lines as the note indicates, includes cars owned by Texas and New Orleans Railroad Company and other separately operated companies solely controlled by the Southern Pacific Company.

Q. Do I understand that these cars whose movement is shown in line 4 includes only those cars that are stencilled



"Southern Pacific Company" without any reference to one of the affiliated companies?

A. That is correct.

Mr. Mason: Have you any other questions, Mr. Strouss?

Mr. Strouss: No other questions.

Mr. Mason: Your Honor, I may explain that this exhibit undertakes to show the important part played in the [fol. 2252] movement on the lines as a whole and in Nevada and Arizona of the refrigerator cars and the Pacific Fruit Express Company and also as an indication of the perishable traffic and also that our company handles the cars of other railroad ownership on its lines in both states as well as on the system generally. We offer the exhibit as defendant's exhibit No. 170.

Mr. Strouss: I object to it as irrelevant and immaterial.

The Court: Objection overruled, it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 170.")

Mr. Mason:

Q. Mr. Masson, have you before you a statement in two sheets bearing title, "Lines and Operations Abandoned under Authority of Interstate Commerce Commission (Exclusive of Electric Lines in California and Oregon), Period January 1, 1930, to December 31, 1939, Inclusive"?

A. Yes.

Q. Did you prepare this exhibit?

A. Yes, I did.

Mr. Mason: May we have it marked No. 171 for identification?

The Court: It may be marked.

[fol. 2253] The Clerk: Defendant's exhibit No. 171 for identification.

Mr. Mason: Q. What sources were employed in its preparation?

A. This was made from our basic mileage records.

Q. Do your basic mileage records show the actual date of abandonment of these several pieces?

A. Yes.

Q. From what source did you obtain the information shown in column G?

A. That was taken from our records also which were posted as and when these orders came along.

The Court: Mr. Masson, do I understand that your railroad, the Southern Pacific, or any other line cannot abandon any of its mileage, any of its roads without the consent of the Interstate Commerce Commission?

A. Absolutely correct.

The Court: Does that also require the consent, say in Arizona, of the state corporation commission?

A. No. When the application is made to the Interstate Commerce Commission the state commissions are informed of that application by copy of the application and if they have any objections they then state them to the Interstate [Vol. 2254] Commerce Commission. In the absence of any objection or comment by the state commissions the Interstate Commerce Commission acts on the application after hearing.

The Court: On its merits?

A. On its merits, yes.

The Court: But there is no dual control, by that I mean the state commission couldn't veto the action of the Interstate Commerce Commission?

A. That circumstance would not arise because of the cooperation between the Interstate Commerce Commission and the state commissions. I have never known the Interstate Commerce Commission to override a state commission in matters of this kind.

The Court: In other words, do you mean to say if the Southern Pacific proposed to abandon some short line in Arizona and the Arizona Corporation Commission protested that request that the Interstate Commerce Commission would deny the request?

A. If the state of Arizona did not produce a satisfactory reason for its objection, the Interstate Commerce Commission would issue the authority to abandon. In other words, the Interstate Commerce Commission would take into consideration the arguments and facts presented by the state [Vol. 2255] commission in determining its judgment.

The Court: Then there is a distinction between the abandonment of a line and the type of service that may be rendered on a line?

A. Yes.

The Court: In other words, I just noticed by the newspapers, for instance, that you proposed on the Arizona Eastern road from Bowie into Globe to cease running a passenger train that has been running. Now that is a matter over which the Arizona Corporation Commission has exclusive jurisdiction I take it?

A. That is true.

The Court: But if you sought to abandon the line from Bowie into Globe then the Interstate Commerce Commission has the sole say.

A. That is the idea, yes, that is according to the Interstate Commerce Commission Act.

Mr. Mason: As a matter of fact, Mr. Masson, some of these abandonments, for example, going to sheet No. 2, in the state of Nevada were accomplished in spite of the protest of the Nevada Public Service Commission, were they not?

A. Yes, from Tonopah Junction to Nevada-California state line.

Q. I take it that each one of these Interstate Commerce [fol. 2256] Commission finance docket numbers is reported in the published and printed reports of the Interstate Commerce Commission?

A. Yes, sir.

Q. And what you have shown here are the finance docket numbers without the citations of the Interstate Commerce Commission's volumes?

A. That is true.

Q. Has the exhibit been compared against the record of the proceedings and against your mileage record to determine whether it is true and correct?

A. Yes.

Q. Have you checked these Interstate Commerce Commission finance docket numbers in column G?

A. Yes, I have spot-checked them.

Q. Are the dates shown in column F the dates upon which operations on the lines actually ceased and the lines themselves abandoned so far as operations were concerned?

A. Yes.

Q. You show totals for the various states. Are those to some extent an explanation of the variations in mileage in

the several states as to which you show mileage statistics for several years?

A. They enter into that calculation.

Mr. Mason: Have you any questions on the exhibit, Mr. [fol. 2257] Strouss?

Mr. Strouss: I notice this only covers a period from 1930 to 1939 while most of your other exhibits go from 1922 to 1939. Was there any particular reason for that?

A. Yes, prior to 1930 our abandonments were not very extensive.

The Court: Speak a little louder, please.

A. I say, prior to 1930 we didn't abandon very many lines. Our activities in respect to abandonment of unprofitable lines in the interest of economy really date from 1930.

Mr. Mason: We offer the exhibit in evidence as No. 171.

Mr. Strouss: I object to it as irrelevant and immaterial.

The Court: Objection overruled, it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 171.")

Mr. Mason: Mr. Masson, I direct your attention to an exhibit in sixteen sheets the title of which is "Net Railway Operating Income and Rate of Return on Investment (Book Value), Calendar Years 1925 to 1939, Inclusive." Have you that statement before you?

[fol. 2258] A. Yes, sir.

Mr. Mason: We ask that this be marked for identification, defendant's exhibit No. 172?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 172 for identification.

Mr. Mason: Referring to the first sheet of the exhibit No. 172 for identification, was the exhibit in its entirety prepared by you or under your direction?

A. It was prepared under my supervision and direction.

Q. As to the first sheet, from what sources were the figures on that sheet taken?

A. The items 1 to 12, inclusive, were taken from the monthly reports of revenue and expenses rendered by the Pacific lines to the Interstate Commerce Commission. We have those reports in the courtroom.

Q. And the territory covered by the exhibit, that is the lines to which the exhibit relates, are the lines west of El Paso, Tucumcari, and Ogden and south of Portland which you have heretofore identified as the Pacific lines?

A. Yes.

Q. Does this include all main and branch line operation [fol. 2259] of that property?

A. Yes.

Q. It relates only to its carrier operations, as I understand it?

A. Yes.

Q. These revenues are only those which are derived from operation as a railroad?

A. Yes.

Q. Apart from any hotel or lumber company or oil property operations, is that correct?

A. That is correct?

Q. From what sources do you obtain the figures in line 14?

A. Fourteen is taken from the annual report and other sources that are explained on sheet 2 to 16?

Q. Is the figure for the year 1925 found in line 14 explained in detail on sheet 2 of the exhibit?

A. Yes.

Q. Then the figures in line 15, how are they arrived at?

A. That is the quotient of a division of the item of revenue, item 12, by item 14.

Q. For instance, as to the year 1925, you divide a figure shown opposite line 12, net railway operating income, by figures shown opposite line 14, book value at close of year, [fol. 2260] and obtain the percentage figure in line 15?

A. Yes.

Q. And the same for each of the other figures in line 15?

A. Yes.

Q. Going to sheet 2, I will ask you first if your explanation of sheet 2 is generally applicable to the succeeding sheets, 3 to 16, inclusive?

A. Yes, this was arranged so that anyone can follow the figures from the reports that are stated at the bottom of the sheet, the annual report to the Interstate Commerce Commission, the stockholders' reports, and the balance sheets are all here in court. That was prepared primarily to indicate and show the court what makes up the Pacific



lines of the Southern Pacific Company and to assist the attorney for the opposition in tracing the figures through.

Q. Let's go further into sheet No. 2, first referring to line 1, you show the name of "Southern Pacific Company." Do I understand that the annual report to the Interstate Commerce Commission or the annual report to the stockholders show that as of the end of 1925 it had a total investment in road and equipment as indicated in column C, line 1?

[fol. 2261] A. Yes.

Q. And that figure is further broken down into a total investment in the railroad properties known as the Pacific lines as indicated in column D?

A. Not that figure, no, but added to that figure are the investments in other lines that comprise the Pacific lines.

Q. The Southern Pacific Company as a corporation had invested in Pacific lines the figure shown in line 1, column D?

A. Yes.

Q. And that same corporation as a corporation and considered not as a railroad for the moment, had an investment elsewhere of the figure shown in column E, is that correct?

A. Yes.

Q. You have explained column E by a footnote reference?

A. Yes.

Q. Does the addition of columns D and E for line 1 appear in some other column on the exhibit?

A. Column C.

Q. Columns D and E are the breakdown of column C?

A. Yes.

[fol. 2262] Q. In line 2 you refer to the name of the corporation, Alamogordo and Sacramento Mountain Railway Company. What is that company or what was it?

A. That was a wholly owned subsidiary of the Southern Pacific Company.

Q. Did it as a corporation own certain fixed property or equipment as of the end of the year 1925?

A. The amount shown in line 2, columns C and D.

Q. What was the Arizona Eastern as of December 31, 1925?

A. A wholly owned subsidiary of the Southern Pacific Company owning fixed property as shown in columns C and

D, which were operated under lease by the Southern Pacific Company.

Q. What as to the rest of these companies shown in lines 4 to 21?

A. The same explanation applies to each and every one of them. In other words, all of these companies shown from line 2 to line 21 represent wholly owned subsidiaries of the Southern Pacific Company owning property with a book value as shown in columns C and D, whose properties are operated under lease by the Southern Pacific Company. The exception to that is the Inter-California Railway Company [fol. 2263] which owns property both in the United States and in Mexico and only the lines in the United States are operated under lease by the Southern Pacific Company as part of the Pacific lines.

Q. Are the lines of the Inter-California Railway Company in Mexico indicated on exhibit No. 1?

A. I can't see from here, but I think they are.

Q. These lines between Mexicali and Lower California and Algodones in Lower California, both points being on the international boundary line?

A. Yes.

[fol. 2264] Q. Now, passing from Account 701, Investment in Road and Equipment, what is the explanation as to Account 702, Improvements on Leased Railway Property?

A. Those were expenditures made by the operating company on property leased by it, expenditures representing additions and betterments to leased properties.

Q. Now, as to Account 708, what does that represent?

A. That is actual cash.

Q. Apparently none of these subsidiaries had any money, is that correct?

A. No, they are dormant corporations so far as operations are concerned; their properties are operated by the Southern Pacific Company and the Southern Pacific Company pays all of their corporate expenses; therefore, they have no cash on hand.

Q. And what is Account 716?

A. Material and Supplies, an operating stock of materials and supplies.

Q. Would that be such stock as spare ties awaiting insertion in the track?

A. That includes everything of an operating nature: rails, ties, locomotive parts, bridge parts, in fact, all types [fol. 2265] of material used in the operation and repair of a railroad.

Q. Would it include fuel oil on hand in the company's possession?

A. Yes.

Q. Would it include locomotives and cars?

A. No.

Q. Where are they included?

A. They are included in Column C, they are in the investment account.

Q. Would they also appear in Column D?

A. Column D, yes.

Q. I notice that when we get over to Sheet 16, and I think it is true of some of the intervening sheets, that instead of having the number of company lines 2 to 21, inclusive, that the number has been reduced so that you have only eight other than the Southern Pacific Company. What has happened to the rest that are not shown?

A. The others have been consolidated. Through the period of years covered by this exhibit it has been the aim of the company to simplify its corporate structure, and in that process it has transferred the properties of one company to another and disincorporated that company, and, in other words, it has reduced the number of corporate entities owning the railroads.

[fol. 2266] Q. Does that account for this disappearance of the South Pacific Coast Railroad Company, for example?

A. Yes; the South Pacific Coast Railroad Company was acquired by the Southern Pacific Company.

Q. What has happened to the Inter-California; what has become of its United States properties?

A. The line in the United States were acquired by the Southern Pacific Company, and the lines in Mexico are operated independently.

The Court: Well, Mr. Masson, the Court is a little confused on your corporate structure here. The defendant in this case, I take it, is the Southern Pacific Company.

A. Yes, sir.

Q. Now, referring to Sheet 2, on Line 1, you list there the Southern Pacific Company; down on Line 20 you have the Southern Pacific Railroad Company, and then the over-

all designation of the entire exhibit is the Southern Pacific Company.

A. Pacific Lines.

Q. Pacific Lines? It doesn't so state.

Mr. Mason: No, the Southern Pacific Company.

The Court: (Continuing) Now, having in mind that the whole is no larger than its component parts, why do you [fol. 2267] list the Southern Pacific Company on Line 1 if the Southern Pacific Company actually owns all the subsidiaries shown there between lines 1 and 20?

A. The Southern Pacific Company owns certain railway properties which are part but not all of the Pacific Lines. The remaining lines that are operated as the Pacific Lines are owned by these respective subsidiary companies. The investment of these separate organizations is kept separate in our accounts. To determine the full investment value of all Pacific Lines, we must naturally go to the books of each company that makes up those lines. That is why it is shown. There is no duplication in these figures, nor is there, you might say, any relationship except through the instrumentality of a lease, first, of these properties by the Southern Pacific Company and, next, the stock ownership by the Southern Pacific Company of these various subsidiaries. Is that clear?

Mr. Mason: Do I understand, Mr. Masson, that the Southern Pacific Company owns the entire stock of each of these subsidiaries which, for the year 1939, are shown on Sheet 16 in Lines 2 to 9, inclusive?

A. Yes.

[fol. 2268] Q. And has caused them to lease all of their physical properties to the Southern Pacific Company?

A. Yes.

Q. Does the Southern Pacific Company control the amount of investment, the betterment which may be made on any of these leased properties?

A. Yes, it does.

Q. Through its stock ownership?

A. Yes.

Q. And the entire property, owned and leased, then is what constitutes the Southern Pacific Company, Pacific Lines, railroad system?

A. Yes.

The Court: I still don't understand why—take Sheet 16, why you list the Southern Pacific Company on Line 1, then set up in the various schedules there the financial structure, when you have just testified that all of these lines are owned and controlled by the Southern Pacific, and your exhibit shows that the Southern Pacific Company, being the same company, I take it, that is listed on Line 1, actually owns the whole. Maybe I don't make myself clear.

A. Yes, I think I understand. First, let us make a distinction of ownership. The Southern Pacific Company [fol. 2269] owns the stock of all of these subsidiaries. We have shown here the book value of the investment of the Pacific Lines, the investment in road and equipment, physical properties. In arriving at that figure we cannot take the value of the stock that is owned by the Southern Pacific Company; we must take the value of the properties used by the Southern Pacific Company. Now, the value of these properties used by the Southern Pacific Company is not on the books of the Southern Pacific Company; only the stock value is on the books of the Southern Pacific Company. Therefore, when we make a consolidated investment figure we must go to the books, first, of the Southern Pacific Company, where we will find only the value of a small part of the Pacific Lines; then we must go to the books of each one of these other subsidiaries to get the total value invested in the physical properties that is separate and apart from the stock ownership of these companies.

Mr. Mason: Now, may I ask some questions in that connection, and they may be leading, Mr. Strouss; but I think they will develop the points we have in mind.

Q. Do I understand, Mr. Masson, referring to Sheet 16, Line 2, that the Arizona Eastern Railroad Company is a [fol. 2270] corporation separate from the Southern Pacific Company?

A. It is.

Q. And it holds legal title to certain property having an investment value as indicated in Column D, Line 2?

A. Yes.

Q. That property is then leased under a long-term lease to the Southern Pacific Company?

A. Yes.



Q. Which latter then operates it as part of a railroad system.

A. Yes.

Q. Now, the Southern Pacific Railroad Company is a corporation separately organized apart from the Southern Pacific Company?

A. Yes.

Q. Chartered in Arizona, as a matter of fact, isn't it?

A. Yes.

Q. And it owns legal title to certain properties?

A. Yes.

Q. Which are leased for a long period of years to the Southern Pacific Company, the so-called parent company?

[fol. 2271] A. That is correct.

Q. And the same as to each of these other properties in lines 3 to 8, inclusive?

A. Yes.

The Court: Of course, the parent company not only leases it, but owns the capital stock of the subsidiary corporation.

A. They own the stock, yes, but that doesn't give them authority to operate the property.

Mr. Mason: Referring to Line 1 on Sheet 16, and comparing the figure in Column D, line 1, with the figure in Column D, Line 10, is the figure in Line 1, Column D, the investment value of the properties to which the Southern Pacific Company as the corporation—the physical properties to which that company as a corporation holds legal title?

A. Yes.

Mr. Mason: Does that make it clear, your Honor?

The Court: I think I see it. One other question: The Southern Pacific Company, the parent organization, so-called, must be distinguished from this Southern Pacific Railroad Company down here on Line 9?

A. Yes.

[fol. 2272] Q. That is an entirely separate corporation?

A. Two different corporations.

Mr. Mason: Mr. Masson, just as a matter of explanation, why are these corporations or some of them kept alive while others are discontinued; do you know?

A. Mostly because of outstanding mortgages and bond issues, bond issues outstanding.

Q. Now, these figures in Line 14 correspond to the figures shown in Column D, Line 10, of each of these succeeding pages, do they?

A. Yes.

Q. Where are they found?

A. Well, the figure—take 1939, the figure in the last column opposite Line 14 on Sheet 1 is the same figure as will be found in the last column on Sheet 16.

Q. Column O?

A. Column O.

Q. Being the total investment, including cash, material and supplies.

A. Yes, sir.

Q. That is investment in fixed property, cash on hand.

A. What is ordinarily known as working capital, consisting of material and supplies, and cash.

[fol. 2273] Q. Do I understand then each of the sheets 2 to 16, inclusive, is a break-down of the investment figure of line 14 in Sheet No. 1?

A. Correct.

Mr. Mason: Have you any questions on the exhibit?

Mr. Strouss: We are about to adjourn. I would like to look this over tonight.

Mr. Mason: Would you prefer that I defer the offer until tomorrow morning?

Mr. Strouss: Yes, I would.

The Court: The court will be at recess until ten o'clock tomorrow morning.

(Thereupon, the court stood at recess until Wednesday, January 15, 1941, at ten o'clock A. M.)

[fol. 2274] January 15, 1941, ten o'clock A. M.

Proceedings were resumed at this time as follows:

Mr. Mason: Mr. Strouss, have you before you the transcript of yesterday's testimony?

Mr. Strouss: Yes.

Mr. Mason: Page 2189. Mr. Masson has called my attention to his answer in line 23 to a question which you addressed to him in connection with exhibit No. 162. His answer

was "No," and the question was, "On Item 1 you have an increase of mileage of road operated?" Now, obviously, the answer should have been yes. He says he clearly didn't understand the question.

The Court: You are asking permission, then, to change the answer?

Mr. Mason: I think the answer should be changed to "Yes," if you care to stipulate to that.

Mr. Strouss: Sure, I will stipulate to that. I didn't notice that in his answer to the question that he said "No."

The Court: The correction indicated, then, may be made.

Mr. Mason: Now, I think that we had about finished preliminary questions prior to an offer of the exhibit [fol. 2275] marked "Exhibit No. 172 for identification," but at the conclusion I withheld the offer because Mr. Strouss indicated that he desired to ask some questions, or, rather, preferred to look the exhibit over before the offer was made.

L. J. MASSON was recalled to the stand, and testified further as follows:

Mr. Strouss: Mr. Masson, Item 14, book value at the close of the year, that is not the same valuation that Mr. Baker testified to?

A. No.

Q. Those were exhibits 111, 112, 113, and 114?

A. No, that is the book value, the value that we carry on our books. Mr. Baker's value is the valuation of the I. C. C. brought down to date.

Q. Now, in Item 10, Railway Operating Income, of course, rent paid to subsidiaries for lease of properties wouldn't be included in that item?

A. No.

Mr. Strouss: That is all.

Direct examination (Continued).

By Mr. Mason:

Q. As I understand, Item 10, Mr. Masson, is the income [fol. 2276] as indicated by the item shown of the properties taken altogether and operated as a railroad?

A. Yes.

Q. Regardless of the bare legal title being in one corporation or another?

A. Yes.

Q. Are all the underlying documents used in connection with this exhibit available for the examination of opposing counsel, if necessary?

A. Yes.

Mr. Mason: Has the Court any questions on the exhibit?

The Court: I think not.

Mr. Mason: We offer the exhibit in evidence as No. 172.

Mr. Strouss: Objected to as irrelevant and immaterial.

The Court: The objection is overruled. It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 172.")

Mr. Mason: Will you refer, please, Mr. Masson, to a statement in one sheet entitled "Southern Pacific Transportation System, Income Account for the Calendar Year 1925 to 1939, Inclusive?"

[fol. 2277] A: Yes, sir.

Mr. Mason: May we have that statement marked 173 for identification?

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 173 for identification.

Mr. Mason: Did you prepare this statement, No. 173 for identification, or cause it to be prepared?

A. I caused it to be prepared, and it was prepared under my supervision and direction.

Q. And from what sources?

A. From the annual reports of the Southern Pacific Company to its stockholders.

Q. Are copies of the annual reports to the stockholders also furnished to the Interstate Commerce Commission?

A. Yes.

Q. Is the annual report to the stockholders maintained as a permanent company record?

A. Yes.

Q. Do you have copies of the annual reports for these years here for the use of opposing counsel?

A. Yes.

Q. Now, will you state just which lines are included in [fol. 2278] the transportation system as that title is used at the heading of the exhibit?

A. As shown in the heading of the exhibit, the transportation system of the Southern Pacific Company includes the Pacific Lines; the Southern Pacific Steamship Lines—

Q. Between which points do the steamship lines operate?

A. Between New York, New Bedford, Boston, Norfolk, New Orleans, Galveston and Houston; and also includes the Texas and New Orleans Railroad Lines running from New Orleans to El Paso.

[fol. 2279] Mr. Mason:

Q. The Texas and New Orleans Railroad is a railroad property?

A. Yes, it is a wholly owned railroad company operated independently.

Q. What is the relation between the Southern Pacific Company and the Texas and New Orleans Railroad Company from the standpoint of stock ownership?

A. A wholly owned subsidiary of the Southern Pacific Company. In other words, the Southern Pacific Company owns the entire outstanding capital stock of the Texas and New Orleans Railroad.

Q. Does the Texas and New Orleans maintain its own headquarters?

A. At Houston, Texas.

Q. Taking the year 1925, you show first a block of items entitled "Operating Income." What type of income is indicated by the figures in line 7?

A. That is the net railway operating income, or, in other words, the net revenue derived from transportation.

Q. Is that sometimes referred to as income from carrier operations?

A. Yes.

Q. What does line 1 purport to show?

[fol. 2280] A. Line 1 is the total railway operating revenues from transportation of freight and passengers and other miscellaneous revenues incident to the transportation business.

The Court: That is a gross figure?

A. Yes.



Mr. Magon: Line 2 is what?

A. Railway operating expenses incurred in connection with the transportation service rendered in earning the gross revenues.

Q. What does line 3 represent?

A. Line 3 represents the revenue or the difference between the gross revenue and the operating expense.

Q. Is line 3 the subtraction of item 2 from item 1?

A. Yes.

Q. What is item 4?

A. Item 4 are the railway tax accruals.

Q. Does that include state as well as Federal tax payments?

A. Yes.

Q. Do those include taxes on any properties other than those used in conducting transportation operation?

A. No.

[fol. 2281] Q. If there are income taxes or sales taxes not based upon property valuations, are those included in item 4?

A. Yes, if they are applicable to the companies included in this exhibit.

Q. What does item 5 represent?

A. Item 5 represents freight or passenger charges that were uncollectible from consignees.

Q. Are those amounts which were earned but not collected?

A. Earned but not collected is correct.

The Court: I thought the railroads collected in advance. How did that happen?

A. We don't always do that. We would like to, your Honor, but we have two classes of charges. A consignor may wish to pay the freight and we call that "prepaid freight." In the majority of cases charges are always collected at destination.

Q. Do you surrender the freight before collecting your charges?

A. We do not unless the consignee is protected by bond, but it so happens at times that at the time of delivery all charges may not be apparent, and in many cases there will be additional charges come along for one reason or another, the application of the wrong rate or a correction in the [fol. 2282] weight or some charge that may have accrued

enroute will come along later and we will find it rather difficult and sometimes impossible to collect those charges.

Q. The railroad company experiences difficulty with bad debts the same as many other businesses.

A. Your Honor, we are no different than the corner merchant, we have the same problems that he has except that they are more widely dispersed.

Mr. Mason: I will ask you, Mr. Masson, if it is not a fact that the amounts which go to make up uncollectible railway revenues are frequently very small in amount?

A. That is true.

Q. Not justifying the expense of collection in many cases?

A. That is true. We are obligated under the law to exhaust every possible means to collect our charges, even going to court, but many of the items are so small that it is not worth while.

The Court: The cost of collection would exceed the debt?

A. Yes. We are not expected to do an idle or an expensive act.

Mr. Mason: As to item 6, what does that represent?

[Col. 2283] A. That represents equipment and joint facility rentals. That is the per diem we pay. That is the net of the per diem or car rental that we pay other lines or collect from other lines for the use of our cars.

Q. Do those represent the balances by which the amount paid to other lines exceeds the amount received?

A. Yes, the joint facility rents represent the rentals that are paid for use of joint properties, properties owned by other lines which we use jointly with them.

The Court: Pardon me, Mr. Masson, reverting for the moment to the item, "Uncollectible Railway Revenues," evidently you must have improved your system as I notice for the years 1936, 1937, 1938, and 1939 no such items appear?

A. We were not any more fortunate in those years than we were in the past, but due to a change in the instructions issued by the Interstate Commerce Commission that account, uncollectible revenue, was canceled and we now

charge the uncollectible revenues against freight revenue or passenger revenue as the case may be.

Q. It is just a matter of bookkeeping then?

A. Just a matter of bookkeeping.

[fol. 2284] Q. You still sustain your losses?

A. We do, yes, sir.

Mr. Mason: I take it in these later years you simply do not show quite as much in item 1 as you otherwise would?

A. That is right.

Q. To illustrate equipment rents, if a Southern Pacific Company car is on the lines of the Santa Fe, does the Southern Pacific receive rental from the Santa Fe?

A. Yes.

Q. At an agreed rate?

A. A dollar per day.

Q. If the Santa Fe car is on the Southern Pacific lines, does the Southern Pacific Company pay rent for the car while it is on the lines?

A. Yes, at the same rate.

Q. And the same, of course, with every other railroad with which equipment is interchanged?

A. That is true.

Q. I take it that this item, No. 6, is largely made up of the balancing of these cross-accounts?

A. Yes.

Q. If the Southern Pacific participates jointly with other railroads at a terminal such as the Los Angeles union passenger terminal, is rental paid for the use of that terminal?

A. Yes.

Q. Does that enter into this item of joint facility rents?

A. Yes. I want to explain when I said a dollar per day I was speaking of freight cars.

Q. I understand there are different rental figures for different kinds of equipment of different ownership?

A. Yes.

Q. In obtaining your figure in item 7, will you explain what relation that bears to item 3 and how item 3 is reduced, if it is, in obtaining item 7?

A. Item 3 is the net remaining after applying operating expenses, that is, the cost of maintenance of way and equipment, traffic expenses, transportation expenses, general expenses. After applying that cost against the gross revenue,

we have item 3. Of this net remaining from transportation we have taxes to pay. That is a charge against the amounts shown in line 3. So also are uncollectible revenues and so also are equipment and joint facility rents. The sum of lines 4, 5, and 6 is deducted from line 3 to get line 7. Does that make it clear?

Q. Yes, I think it does. Proceeding now to the block of [fol. 2286] items entitled "Other Income," what is represented there?

A. Other income are items that are distinguished from operating revenues or expenses and are generally of a financial nature. They will include revenues from miscellaneous operations; income from lease of road and equipment; miscellaneous rent income, that is, rent that we collect from property in and around our rights of way.

Q. Would that, for example, include rentals from property leased to private persons for warehouse sites?

A. Yes.

Q. Would this other income include dividends on stock which the company may own?

A. Yes, I was coming to that.

Q. Would it include interest on bonds which the company may own?

A. Yes, income from securities the company may own.

Q. Would it include interest on bank deposits?

A. Yes, if we get any.

Q. Suppose that the company owns lands which produce oil or other minerals, where does the income appear?

A. That would go into "Other Income."

[fol. 2287] The Court: That is line 9?

A. Yes, sir.

Mr. Mason: How do you get line 11?

A. Line 11 is the addition of line 10 to line 7 which brings us to a figure of gross income, that is, receipts from all sources.

Q. I understand that this figure in line 11 is the corporate income of the transportation system?

A. Yes, the gross corporate income of the transportation system.

Q. That includes both operating and non-operating income?

A. Both operating and non-operating income.

Q. What items are placed in the next block which includes lines 12 to 16?

A. We have charges that would go against income items that are credited to other income, such as taxes on miscellaneous operating property; miscellaneous rents of one kind or another; miscellaneous tax accruals; tax accruals that apply to properties that are not strictly operating properties. We have other items such as the maintenance of an investment organization, an organization that looks after our investment securities and minor items of that kind.

Q. Would it be correct to say that this group, miscellaneous [fol. 2288] deductions from income, are the expenses and deductions associated with the non-carrier operations which yield the non-carrier income?

A. That is essentially correct.

[fol. 2289] Q. Now, what do you place in the block entitled "Fixed Charges," items 17 to 20?

A. Well, fixed charges include, first of all, interest on outstanding debts, funded debt or any indebtedness that the company may have.

Q. What do you mean by "funded debt?"

A. Funded debt is a debt that has been covered by securities and mortgages.

Q. Well, then, this item 17 represents essentially bond interest or interest on secured notes, does it?

A. It does, yes, sir.

The Court: While on that, Mr. Masson, I notice that between the years 1927 and 1939, there has been quite a substantial increase in spite of the fact that the interest rates have dropped. Now, does that mean that the company has increased its indebtedness during that period materially?

A. It does, yes, sir. When you say that interest has dropped—

The Court: I was taking that from the commercial world generally.

The Witness: (Continuing) We must bear in mind that the fixed obligations that have been outstanding for some time carry the same coupon interest today as they did several years ago, but besides that we had to increase our [fol. 2290] indebtedness considerably. We borrowed from



the R. F. C. Reconstruction Finance Corporation, and we also borrowed from the banks. We now owe each of those generous individuals eighteen million dollars apiece, so that is quite a sum outstanding.

Mr. Mason: And is there interest payable on these added borrowings that you have mentioned?

A. Yes.

Q. Does that enter into Item 17, the interest on funded debt, bonds and notes?

A. Yes, sir.

Q. You spoke of other fixed charges. Does that represent sinking fund payments?

A. No, it doesn't represent sinking fund payments; it represents, primarily, rents for leased road and equipment and amortization charges.

Q. Amortization charges on what type of obligation?

A. Well—I beg your pardon, there is no such item in that. You based your questions on 1925. I was following the 1939 report. I said there is no amortization, which is a fact, so far as 1939 is concerned. There happened to have been charges for "Amortization of discount on funded debt in years 1925 to 1938 inclusive". Whilst amortization charges is a part of fixed charges, we happen to have no [fol. 2291] charges of that kind in here, but the other fixed charges does represent as I say, rent for leased road and equipment, and then interest on unfunded debts.

Q. When you speak of interest on unfunded debt, is that such matters as short term loans?

A. Yes, of one kind and another.

Q. Mr. Masson, you are familiar with the type of security or obligation sometimes called an equipment trust note?

A. Yes.

Q. For what purpose are equipment trust issues used?

A. Well, for the purchase of equipment.

Q. Do they become funded debts of the company?

A. Yes.

Q. Do they carry interest?

A. Yes.

Q. And where such interest is paid, in what item would it appear?

A. Interest on funded debt.

Q. Is it line 17 here?

A. Yes.

Q. How did you arrive at the figure on Line 20—

The Court: Mr. Mason, I don't think it will be necessary to go into that. It is quite evident from the exhibit itself.

[fol. 2292] Mr. Mason: Very well. Is it desirable to explain line 20? I imagine it is not, because it is shown by the division of line 16 by 19 on the face of the exhibit.

Q. Has the exhibit been compared against the original sources, Mr. Masson?

A. Yes.

Q. And are there any computations hereon which do not appear on the original sources?

A. The line 21 is a computation which indicates the number of times fixed charges were earned, as indicated there in dividing line 16 by 19.

Q. Mr. Masson, is a showing of this character prepared for the Southern Pacific Company, Pacific Lines, apart from the balance of the transportation system?

A. No.

Q. Could such a showing be prepared from the books of the company?

A. No.

Q. Could such a showing be prepared for the Texas and New Orleans Railroad Company considered as a unit and apart from the balance of the transportation system?

A. Yes.

[fol. 2293] The Court: I take it, from this exhibit, referring to line 22, that no dividends have been declared since the year 1932?

A. That is true, and if we don't do any better in the future we are going to be in the soup.

Mr. Strouss: I move that that be stricken.

The Court: Yes, that may be stricken.

Mr. Mason: Could a showing of this kind be prepared for the Southern Pacific Steamship Lines apart from the other two units shown here?

A. No.

Q. Will you state why you have prepared and presented the exhibit in this fashion showing the entire transportation system rather than for the Southern Pacific Company, Pacific Lines, as a separate unit?

A. The purpose of this exhibit primarily is to show the reduced earning power of the Southern Pacific Transportation System, on which the Southern Pacific Company's outstanding stock must depend for dividends. That is the reason why the exhibit was prepared in this form, to show the availability of earnings and the earnings power, as a matter of fact, that is behind the Southern Pacific Company stock now outstanding.

[fol. 2294] The Court: Well, Mr. Masson, in examining the exhibit, if I read it correctly, in spite of the fact that no dividends have been declared since 1932, it does appear from the exhibit, does it not, that there has only been three years during the period 1925 to 1939, inclusive, where there has actually been a net deficit?

A. That is so, too, yes, sir. May I point out, however, that in many of the other years there was very little left for dividend purposes.

Mr. Mason: Have you any questions on the exhibit, Mr. Strouss?

Mr. Strouss: Not at the present time, no.

Mr. Mason: Has the Court any further questions?

The Court: I think not.

Mr. Mason: We offer the exhibit in evidence as No. 173.

Mr. Strouss: Objected to as irrelevant and immaterial.

The Court: Overrule the objection. It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 173.")

Mr. Mason: Will you refer, please, Mr. Masson, to a [fol. 2295] statement in one sheet entitled "Summary of Authorizations Granted by Interstate Commerce Commission Under Section 20A of Interstate Commerce Act?"

A. Yes, sir.

Mr. Mason: May we have this statement marked 174 for identification?

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 174 for identification.

Mr. Mason: Did you prepare Exhibit No. 174 for identification?

A. Yes, sir, I prepared it personally.

Q. I will ask you to refer, if you will, to Mr. Russell's Exhibit No. 7, Defendant's Exhibit No. 7, which was presented on the first day of this trial.

A. Yes, sir.

Q. And also refer to Mr. Russell's testimony, his answer to a question with respect to the equipment trust obligations, which were apparently referred to under column K of his exhibit No. 7, headed "Trust Series." Did you prepare exhibit No. 174 for identification with reference to Mr. Russell's exhibit No. 7?

A. Yes.

[fol. 2296] Q. In what manner was it prepared?

The Court: Did I understand you to say No. 7, Mr. Mason?

Mr. Mason: Yes.

The Court: That has to do with locomotives purchased or built in company shops, does it not?

Mr. Mason: Purchased or built in company shops, yes, and this will relate to the purchase.

Q. Will you explain just how you prepared Exhibit 174 for identification with reference to exhibit No. 7?

A. First I referred to the trust agreements and there found the equipment as listed in Mr. Russell's exhibit No. 7. Then I referred to the orders of the Commission issued in each of these cases.

Q. Did you refer to the letter series shown on exhibit No. 7 as the indication of the various series of trust indentures that were shown as having been issued?

A. Yes.

The Court: That is column K?

Mr. Mason: Yes.

The Witness: (Continuing) And having reviewed the orders of the Commission, I abstracted column C and column D, the information shown in those columns, then I [fol. 2297] went to the published reports and abstracted the references that are shown in column E.

Mr. Mason: I think Your Honor will recall that Mr. Russell, in answer to my question asking him whether these various trust indentures or trust series shown by letter on his exhibit had been authorized by the Commission, said, "I understand that may have been," which answer was ob-

jected to as being hearsay. The purpose of exhibit 174 is to show, by calling to the Court's notice, by the Interstate Commerce Commission's published reports and orders, the fact in that connection.

Q. Were you able, by associating the letter series with the date and the finance docket number, to obtain the Interstate Commerce Commission orders and dates of issuance in connection with each of these letter series of these trust indentures?

A. Yes.

Q. Have you compared the exhibit against the Interstate Commerce Commission report?

A. I abstracted it personally from those reports.

Q. And you know it to be a true and correct reflection? [fol. 2298] A. Absolutely.

The Court: Well, do I understand, Mr. Masson, that the Southern Pacific Company cannot issue these trust indentures without the approval of the Interstate Commerce Commission?

A. That is correct; under section 20A, the I. C. C. has jurisdiction over all securities that any company might intend to issue.

Mr. Mason: You are referring to Section 20A of the Interstate Commerce Act?

A. Yes, sir.

Mr. Mason: I think that is now Section 20A of Part 1, of the Transportation Act of 1940, is it not, Mr. Strouss?

Mr. Strouss: I think so.

Mr. Mason: Have you any questions on No. 174, Mr. Strouss?

Mr. Strouss: No questions.

Mr. Mason: We offer exhibit No. 174 in evidence.

Mr. Strouss: No objection.

The Court: It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 174.")

Mr. Mason: I think that is all we have from Mr. Masson [fol. 2299] now, Mr. Strouss, if you wish to cross-examine.



## Cross-examination.

By Mr. Strouss:

Q. Mr. Masson, the operation of branches has considerable bearing upon operating expenses of the division, does it not?

A. Yes.

Q. And where the branch-line operations are in a territory that presents difficulties in operation such as severe grades and other things of that sort, that would tend to increase operating costs; that, of course, would also tend to increase operating costs on the division as a whole where you are calculating costs including both main-line and branch service?

A. It would have a contributing effect, of course, on the cost.

Q. Do you segregate in your accounting system costs of operation for branch-line operations and for main-line operations?

A. Only as to maintenance of way.

Q. Prior to the year 1931 you did segregate those costs, operating costs as to branch and main-line operations, did you not?

[fol. 2300] A. Yes.

Q. Now, you have considerably more branch line operation in Arizona than you have in Nevada; isn't that true?

A. Yes.

Q. I think your exhibit 115 shows branch-line track in Nevada 153.60?

A. That is correct.

Q. Arizona, 464.96?

A. That is correct.

The Court: What exhibit was that, Mr. Strouss?

Mr. Strouss: 115.

Q. Now, your form 521 for the year 1931 shows your branch-line operations on the Tucson division at \$1.305; on the branch-line operations on the Salt Lake Division, 88.4 cents.

A. I haven't that form 521—1931?

Q. 1931.

A. I haven't that here. Can you suspend that question for a minute until I get that

Mr. Strauss: Yes, you may check that figure later.

The Court: We will take a recess at this time if you want to suspend while he gets that.

Mr. Strauss: Have you those here?

A. Yes, we have them here.

[fol. 2301] The Court: Very well. We will take a recess.

(Thereupon, a short recess was taken, after which the witness was recalled to the stand, and proceedings were resumed as follows:)

[fol. 2302] Mr. Strauss: Q. I am speaking of the cost per train-mile, Mr. Masson. For the year 1931, main line, Salt Lake division, the total was \$1.047?

A. That is correct.

Q. And Tucson, \$1.11?

A. That is correct.

Q. Branch lines, Salt Lake, \$0.884?

A. That is true.

Q. Tucson, \$1.305?

A. That is true.

Q. In 1930 on the Salt Lake division, main line, \$1.062?

A. Correct.

Q. Branch lines, \$0.904?

A. Correct.

Q. On the Tucson division, \$1.13 for main lines?

A. The 521 that I have here for 1930 is not complete as to the year. What figure did you quote?

Q. \$1.13 for main line.

A. I can't verify that figure because the form I have here doesn't show that. That is the year in which the limits of the division were changed.

Q. I think I took that off of your 1931—no, that wouldn't show in your 1931 recapitulation.

A. No, unless you computed it. What was the other [fol. 2303] figure?

Q. Branch lines, \$1.392?

A. The cost on the Tucson division—I can't verify that.

Q. There are a great many items, of course, that enter into cost of operation, are there not, or that affect the cost of operation?

A. You mean train operation?

Q. Train operation, yes. For example, the number of tracks will have its effect upon costs?

A. As to whether or not there is sufficient track room for the trains that are operated?

Q. Single or double track, the costs may be affected by whether your operation is on single or double track?

A. Yes.

Q. Also the volume of traffic will have its effect upon costs?

A. The volume of traffic that can be put in one train.

Q. Volume of traffic available?

A. It will, yes, to a certain extent if the traffic is not enough to fill out the trains.

Q. Length of divisions or operating districts will have its effect upon costs?

A. I don't think that would have an material effect on [fol. 2304] costs.

Q. If you have a train, a freight train district where the operation of the freight train is for one hundred miles and another district of two hundred miles before there is a change of engines, wouldn't that longer division have a less cost, for example, in the cost of the preparation of the engine for its run?

Mr. Mason: I would like to have that question read.

(The question was read by the reporter.)

Mr. Mason: Your Honor, I don't think I have qualified the witness to testify regarding details of operation, and I don't believe that he undertook to so qualify himself. The exhibits that he presented are largely excerpts from statistical reports or statistical compilations and indicate the result of his research into those accounts rather than his own opinion as to how costs can be affected. I doubt that this can be properly considered as proper cross-examination and I object to the question as improper cross-examination.

The Court: If the witness can answer the question, he may do so, and if he doesn't know he may so state.

A. I would rather not express an opinion on that because [fol. 2305] I am really not expert at it.

Mr. Strauss: Different wage scales in different divisions would, of course, affect the cost?

A. Yes.

Q. Different fuel costs?

A. Fuel is about the same cost over the entire system.

Q. There would be a transportation charge in addition to the original cost which would be chargeable to the division, would there not?

A. We have an average price over all the system.

Q. You don't charge each division for the cost plus the transportation of the fuel to that division?

A. No.

Q. So that availability of the fuel to the division would not affect the cost then?

A. No.

Q. There would be an effect so far as fuel is concerned on the amount of locomotive miles on the division for helper service, would there not?

Mr. Mason: What is that question?

(The question was read by the reporter.)

Mr. Strauss: In other words, a helper engine requires fuel and that fuel cost adds to the cost of operation charge-  
[Vol. 2306] able to that division?

A. The more engine miles the more consumption.

Q. And the same would be true of wages for the engine crew in helper service?

A. Yes.

Q. And the same would be true of switching on the division?

A. Yes.

Q. And the availability of water would be a matter to be considered in that cost; that is, the cost of water by reason of its availability to the division?

A. I don't think that would affect it to any material extent.

Q. What about locomotive supplies, the availability of the market for the purchase of locomotive supplies?

A. That wouldn't have any effect.

Q. What about the difference in the percentage of empties to loads upon the different divisions?

A. That would have some effect, yes.

Q. It would have a material effect with respect to gross ton-miles, would it not?

A. Cost per gross ton-mile, of course the more empties you have to haul over the division the more trains you have to run.

[fol. 2307] Q. And the greater your gross ton-mile cost?

A. The greater the gross ton-mile cost.

Mr. Mason: Q. Would that increase the gross ton-mile cost because they were empties instead of loaded?

A. Not the unit cost, no.

Mr. Mason: I think that was the question and I wanted to be sure the answer was correct.

Mr. Strouss: I notice you have given the revenue for the different states and the operating revenue and the operating costs. It is a fact, isn't it, that over the same period covered by your exhibit here that the operating ratio, the trend so far as operating ratio is concerned, has been substantially the same on the Tucson division as on the Pacific lines and on the Salt Lake division?

A. I don't think so.

Q. You haven't prepared an exhibit on that?

A. I haven't prepared an exhibit on that. If you will name a few years, we can pull the reports and make a comparison or let's let it go and we will prepare an exhibit along that line.

Mr. Strouss: All right.

The Witness: That is, of course, if my counsel has no objection.

Mr. Mason: We will investigate the matter and I imagine [fol. 2308] if we don't, Mr. Strouss will investigate it, so the operating ratio and the trend in operating ratio will be revealed here. I think we have something already prepared which shows to some indication—

The Witness: That being the case, you will wait until this exhibit is presented before renewing your request?

Mr. Strouss: Yes. I would like, if you will do it, I don't want to take the time to go into each one of these now, but the years subsequent to 1931, if you will during the noon hour make a memorandum of the cost per train-mile on the Salt Lake division and on the Tucson division for the years subsequent to 1931. Subsequent to 1931 those costs included both main and branch line operation?



A. Yes.

Q. Could you do that during the noon hour?

A. Taken from the 521?

Mr. Strouss: 521.

A. Yes.

Mr. Mason: I think, your Honor, if the costs per train mile are to be shown; that is, if the plaintiff wishes to show them it should call its own witness and let me cross-examine [fol. 2309] that witness as to what he has done in preparing his showing. They are presenting a showing which we haven't undertaken ourselves and this is kind of a left-handed way of getting the showing. We may put in a showing of cost per train-mile on the two divisions with such explanation as the witness may care to make but this forces me to cross-examine my own witness upon an exhibit prepared by him.

Mr. Strouss: This witness has already testified to a comparison of operating costs on the two divisions.

The Court: Yes; the objection is overruled.

Mr. Mason: A comparison of operating costs?

Mr. Strouss: Yes, by states.

Mr. Mason: That is simply taken from the annual reports to the state commissions, I think.

The Court: To be frank, it does seem to the court if Mr. Strouss expects any new exhibits prepared by this witness or any other witness that he would then be in a position of having to call that witness as his own witness. I will give you full latitude to go into any matters that have been gone into on cross-examination.

Mr. Strouss: I am not asking him to prepare an exhibit. All I want him to do is to check their 521 forms so he can verify the figures. I asked him concerning their per train [fol. 2310] mile costs on the two divisions.

Mr. Mason: And then you asked him to state them for the record or to be prepared after the recess to state them for the record. That is equivalent virtually to preparing an exhibit. It is certainly asking him to place in the record information which he has not hitherto shown. I don't understand he has testified, and I would like to have reference made to his testimony concerning operating costs on the Salt Lake division as compared to the Tucson division.

Mr. Strouss: The operating costs here have been, the comparison has been to the states as a whole. The Salt

Lake division covers the state of Nevada with a small part extending beyond that state. It happens that the Tucson division takes in practically all of the state of Arizona with the exception of the south line through Douglas. I am trying to get a comparison as near as I can from their own records as to their actual expenses.

Mr. Mason: The records are available, Mr. Strouss, and I suggest when the time comes that is a matter of affirmative showing. I agree that a comparison of the Salt Lake division and the Tucson division is highly pertinent and I take [fol. 2311] it that his request now is virtually a waiver of any objection to any comparison between the two states, but I think what he proposes to show is a matter of his own affirmative showing and might properly be introduced through his own witnesses at which time I could cross-examine the witnesses and develop any impairments, if impairments there be, as to a comparison of train-mile costs.

The Court: It would apparently be more expeditious if we are going into any detail on this to have such a schedule prepared in advance.

Mr. Mason: You understand your Honor, that the records from which he or his associates may prepare an exhibit and introduce it in his case are in his possession and I take it he has available to him a witness who is qualified to copy these figures off and place them in the record, just as qualified in that respect as he himself would be.

Mr. Strouss: I think I can find somebody to read those figures or copy them, but I want to say that Mr. Mason may think I have waived my objection as to the comparison, but what I have said is not in the way of a waiver. This evidence has gone in over my objection, and I have to file it.

The Court: The Court does not construe it as any waiver. [fol. 2312] You may proceed.

Mr. Strouss: We are on this question of whether he is going to look at this figures and be prepared to answer.

The Court: Well, on that, Mr. Mason, any data that can be readily procured, if counsel for the State desires, without a great amount of labor I take it you will do that during the recess and be prepared to answer questions in connection with it.

A. Yes, your Honor.

The Court: By that I do not mean the preparation of any elaborate exhibits.

A. No, he simply wants me to draw up a memorandum of these costs.

Mr. Strouss: The totals, I am not asking for the detail. You may put that in if you want to, I have no objection to it.

Q. Yesterday you were asked concerning 490 cars at Yuma, how many trains of 70 cars and how many of 100 cars?

A. Yes, sir.

Q. Of course your answer to that question was on the assumption that that traffic was there available at the time?

A. Yes.

Q. In other words, in order to give the answer you did [fol. 2313] you would have to assume there were 490 cars of traffic available at Yuma at the time?

A. You would have to assume that there were 490 cars there, yes.

The Court: In other words, it was purely a hypothetical question?

A. As I understood it, yes.

Mr. Strouss: You were asked yesterday concerning gross ton-miles per freight train hour and the effect of speed on that item. Of course a train of two thousand tons at twenty miles an hour and a train of four thousand tons at ten miles an hour would get the same gross ton-miles per freight train hour, is that correct?

A. At ten miles an hour, yes.

Q. Lighter tonnage and faster speed would give you the same gross ton-miles per freight train hour as a heavier train at slower speed where the multiples of speed times tonnage give the same results?

A. Yes.

Q. Your hot shots are examples of the lighter tonnage and faster trains?

A. And we get them over the road in a hurry.

Q. That is what I understand. Your exhibit No. 162, "Freight Service Operating Averages, Pacific Lines." I

[fol. 2314] believe you testified that item 4 includes non-revenue as well as revenue freight?

A. Yes.

Q. Is that item 1, does your exhibit No. 115 show the segregation of main and branch line mileage for the Pacific lines as a whole?

A. Yes.

Q. So that that can be determined from that exhibit?

A. Item 1 is the average over the year, average at the end of each month and the figure shown on No. 115 is the miles operated as of the close of the year. That is that difference there.

Q. The total of column 3 would give the total of the branch lines for the Pacific lines, I am speaking of exhibit No. 115 now?

A. Yes.

[fol. 2313] Q. And column 2 is the total main line?

A. Yes, as of the end of the year.

Q. Yes. Now, items—

Mr. Mason: (Interrupting) I think there is one thing more that his attention should be called to—I apologize for interrupting—one is the total mileage operated in steam, and the other is total mileage of road operated in freight service. I don't mean to interrupt your cross-examination.

Mr. Strouss: I am trying to find out what that item 1 represents. If there is a difference there I would like to know what the difference is in main lines operated and mileage of branch lines operated included in item 1 in exhibit 162. Can you give me that? This is freight service. If it is going to take a little time to determine it we can save time by doing it at the noon hour.

A. Just a minute, I may have it. No, it would take a little time to get that, Mr. Strouss.

Mr. Strouss: You don't need to take all of those years shown. If you will take the three last years, 1936, '38 and '39, when you get the segregation for those three years.

Q. Now, items 8, 9 and 10, those items, of course, are affected by availability of traffic, are they not?

[fol. 2316] A. Yes; if you didn't have traffic to fill out the trains—

Q. And item 10, of course, is affected by helper service that is required in a particular division?

A. Yes.

Q. And what about switching as affecting item 10?

A. Road switching.

Q. Road switching. Now, of course, that is true of that same item in exhibits 163 and 164?

A. Yes.

Q. By the way, I think I will only ask you to give me for the year 1939, but will you give me the segregation of main-line and branch lines shown in item 1 of each of those three exhibits?

A. Only for '39?

Q. Only for the year '39. Now, your exhibit 165, column 1, freight revenue per freight service train-mile. Branch-line operations would have an effect upon the amounts shown there, would they not?

A. In some degree, yes.

Mr. Strouss: Do you have any objection, Mr. Mason, on your exhibit 166 Mr. Masson has given a detail of perish- [fol. 2317] ables, the total products of agriculture and grand total of carload lots. Now, I would like both as to cars and tonnage the totals for different headings set up in your annual reports like products of mines and products of manufacturing. Have you any objection to Mr. Masson giving that detail for each of these three states, four, I guess.

Mr. Mason: Let's see, there is the System, and Arizona, New Mexico, and Nevada. You would like to have each of the other major subdivisions which the Commission recognizes in its reports, products of mines, products of forests, products of manufacturing?

Mr. Strouss: Yes.

Mr. Mason: And what is the other, products of animals and products of miscellaneous?

Mr. Strouss: Yes.

Mr. Mason: No, I wouldn't have any objection.

Mr. Strouss: I would like to have total cars and total tonnage both.

The Witness: Could I just read that into the record?

Mr. Strouss: Yes, you may read it into the record.

Mr. Mason: That is quite a job.

[fol. 2318] The Witness: He just wanted totals.

Mr. Mason: You want the total cars and total tonnage?

Mr. Strouss: Yes.



Mr. Mason: Of course, 166 to 169 inclusive don't show tonnage.

Mr. Strouss: Yes, I realize that.

The Witness: You don't want it broken down by the various columns?

Mr. Strouss: No, just the totals.

Mr. Mason: I think that can be gotten readily. I think it would be better though, Mr. Strouss, to introduce it in the form of an exhibit rather than to read it into the record.

Mr. Strouss: Yes.

Mr. Mason: We will have it prepared.

Mr. Strouss: I am not going to be able to finish with Mr. Masson now, and probably will be several days. I want to examine the annual reports to Nevada and the annual reports to Arizona before I complete my cross-examination, and I don't believe I will be able to do that this week. Mr. Masson tells me he is going to Chicago Sunday night.

Mr. Mason: Yes, he has a very important meeting in Chicago, but we will recall him.

[fol. 2319] Mr. Strouss: It might be after I have finished examining those I won't have any further cross-examination, but I don't want to release him until I have determined that.

The Witness: Now, as I understand it, you only want that segregation of commodities by general classes for the one year 1939?

Mr. Strouss: That is right.

Mr. Mason: The cars and tons corresponding to the territories and subdivisions shown on exhibits 166 to 169 inclusive?

Mr. Strouss: That is right.

Q. Now, I asked you some questions concerning exhibit 169 yesterday, whether the total shown in column C would substantially represent the traffic originating within the state. I think that, in response to my question and in response to further questions by Mr. Mason, that your testimony is that with the exception of probably around 500 cars received from so-called short lines, and possibly a hundred which, as I remember it, you testified you couldn't be certain of that, but Mr. Mason's question was a hundred cars received from the Union Pacific and the Western Pacific, that this would represent the traffic originating in Nevada?

[fol. 2320] A. On our line.

Q. Well, adding to that the cars, around 500, originating on the short lines and, say, around 100 on the two transcontinental lines, if that is all the traffic that does originate on those connecting lines, that 600 added to this 5,351, then, would be the total of traffic originating in Nevada?

A. In the state, yes.

Mr. Mason: You mean, of course, originating in Nevada and handled wholly or partially by the Southern Pacific?

Mr. Strouss: Oh, yes. I realize this doesn't show traffic handled by the Union Pacific.

Q. And column C on Exhibits 166, 167 and 168 have the same general meaning?

A. Yes, they represent cars that originated on the line, on our line.

Q. Now, in Exhibit 172, is rent paid to subsidiaries reflected in any way in that exhibit either as income received or expenses paid?

A. The corporate expenses of subsidiaries are not in there.

Q. You have testified concerning rentals of properties from subsidiaries. My question is—

A. No, that is not in there; that would be rent for lease of [fol. 2321] road, that would be an income charge.

Q. But is it included in there as operating expense?

A. No, rent that we pay to a subsidiary for lease of road would be an income charge to the Southern Pacific Company and an income receipt to the subsidiary.

Mr. Mason: I think the question was whether—did you have in mind, particularly, Mr. Strouss, whether it would be included in item 6 on the first sheet?

Mr. Strouss: Yes, whether it is considered as an operating expense.

A. No; that is not an operating expense. The only rentals that are in there are the rentals for joint facilities of one kind or another, and those joint facilities are entirely with lines that are not leased, foreign lines, or lines that are not leased.

Q. And that is not an operating cost?

A. Rents of leased road is not an operating cost.

Q. I asked you earlier this morning about the valuation which you use here, and you testified that it is not the same

[fol. 2322] valuation as Mr. Baker used in his exhibits 111 to 114, inclusive. This is the book value.

A. That is the book value, yes.

Q. What does book value represent in the accounting system of the Southern Pacific Company?

A. Book value represents outlays of money for road and equipment.

Q. Actual money that has been spent over the whole period of years?

A. The whole corporate existence.

Q. The whole corporate existence. And the valuation that Mr. Baker testified to was the valuation allowed by the Interstate Commerce Commission, with additions to date?

A. That is correct.

Q. Which was the reproduction new, so to speak, of that property at the time that valuation was made?

A. I think it was, yes, sir.

Q. I noticed in your exhibit No. 173 that during the period 1925 to 1931 inclusive, you increased your funded debt by a little over four million dollars; is that correct?

A. Yes.

Q. And during that same seven-year period you paid out in dividends a total of one hundred seventy-seven million, [fol. 2323] eight hundred odd thousand dollars, approximately \$178,000,000.

A. We paid out in dividends the amounts as shown in the respective columns.

Q. You haven't totaled it?

A. I haven't totaled it.

Q. Now, where in this exhibit, does rental on leased properties, properties leased from your subsidiaries appear?

A. That would go into miscellaneous deductions from income.

Mr. Mason: Will you identify it by line?

A. That would be included in item 14 there, in line 14.

Mr. Strouss: Now, while that is paid to a subsidiary which is wholly owned by the Southern Pacific Company, it only is shown in income where there has been a dividend paid by that subsidiary, is that correct?

A. That doesn't especially include rentals paid to subsidiaries. As a matter of fact, there is little or no such rental in that account, because our leases with the subsidiaries now provide that we simply make them whole for

such charges as they are obligated for. We pay their bond interest, we pay their corporate expenses. After every- [fol. 2324] thing is said and done, there is little left to the subsidiary. The rents for lease of road, the majority of amounts there represent a piece of track we lease from other foreign roads.

Q. In other words, your leases with subsidiaries are not a lump-sum lease, but a lease in consideration of your paying the different named items of cost or expense?

A. Yes.

Q. This exhibit, of course, as is indicated at the top, is for the entire Southern Pacific Transportation system?

A. Yes.

Q. Which includes the steamship lines and all properties owned or operated by the Southern Pacific?

A. All properties operated by the Southern Pacific. Now, let me correct that; all properties that are operated by the Southern Pacific as part of its transportation system. The steamship lines and the P. & N. O. of course, are separately operated properties within the System.

Q. But are included in this exhibit?

A. Yes.

Q. The Pacific Electric?

[fol. 2325] A. No.

Q. Is not in here?

A. No.

Q. It is not operated by the—

A. It is not a part of the transportation system. While the Southern Pacific owns the entire outstanding capital stock of the Pacific Electric, it is not operated as part of the Electric, it is not operated as part of the transportation system.

The Court: We will take our noon recess at this time, and resume at two o'clock.

(Thereupon, the court stood at recess until two o'clock, P. M. this day.)

[fol. 2326]

2 P. M., January 15, 1941.

All parties being present as heretofore noted, proceedings were resumed as follows:

L. J. Masson resumed the witness stand.

The Court: You may proceed.

Mr. Mason: Your Honor will recall when exhibits No. 11 and No. 12 were offered objection was made on the ground that the underlying documents were not produced and available for purposes of cross-examination. Mr. Porter, who offered these exhibits, has since returned to New York City and now Mr. Strouss and I have reached I think an agreement which will obviate his being returned here and also obviates the objection so far as it was predicated upon incompetency. I understand that you still want to reserve your objection as to relevancy.

Mr. Strouss: Yes.

Mr. Mason: By stipulating as to exhibit No. 11 that column C, freight operating expenses, represents the total of the entries in the annual reports of the New York Central and its leased lines for the years shown as they appear in accounts 201 to 462, inclusive, including all intermediate [fol. 2327] numbers which appear on the form A, annual report, and that the figures for freight transportation expenses, column D, represent the totals as they appear in accounts 371 to 426, inclusive, including entries in intermediate accounts upon the same annual reports. Is there any stipulation we ought to enter into as to exhibit No. 12, the freight service operating averages?

Mr. Strouss: No, I think the questions I asked Mr. Porter when he was here covered that sufficiently.

Mr. Mason: With that understanding then, may the exhibits be received subject to the objection as to relevancy.

The Court: You are now again offering them subject to that objection?

Mr. Mason: Yes.

Mr. Strouss: I thought in reading over the records they were admitted in evidence.

The Court: The court indicated I was going to strike them.

Mr. Strouss: The record would now show that you have complied with the requirement to produce the underlying records.



The Court: That is right.

Mr. Mason: Or that the production of those records has [fol. 2328] been waived.

Mr. Strouss: Yes. Of course we still reserve our objection as to the relevancy and materiality.

The Court: Well, the objection as to the relevancy is overruled and the documents may now be considered in evidence, having been heretofore admitted in evidence and the defendant having met the objection that the Court raised in the matter at the time.

Mr. Mason: I will advise Mr. Porter accordingly and that part of the matter will be closed.

Mr. Strouss: I will say for the record so far as we are concerned we do not require Mr. Porter to return for further examination. When he left, there was a reservation that I could recall him but we now release him.

Mr. Mason: I would like to have the record show my appreciation of your courtesy, Mr. Strouss.

Mr. Strouss: Mr. Masson, did you get those figures that I requested?

A: The cost per train-mile?

Q. Yes, we have 1930 and 1931 in the record already.

A. 1930 I couldn't verify because I don't have the basic figure.

Q. 1932, Tucson division, \$1.006?

[fol. 2329] A. Correct.

Q. Salt Lake division, \$0.952?

A. Correct.

Q. 1933, Tucson division, \$0.944?

A. Correct.

Q. Salt Lake division, \$0.938?

A. Correct.

Q. 1934, Tucson division, \$0.934?

A. Correct.

Q. Salt Lake division, \$0.918?

A. Correct.

Q. 1935, Tucson division, \$1.037?

A. Correct.

Q. Salt Lake division, \$1.013?

A. Correct.

Q. 1936, Tucson division, \$1.13?

A. Correct.

Q. Salt Lake division, \$1.103?

A. Correct.

Q. 1937, Tucson division, \$1.252?

A. Correct.

Q. Salt Lake division, \$1.198?

A. Correct.

Q. 1938, Tucson division, \$1.285?

A. Correct.

Q. Salt Lake division, \$1.207?

[fol. 2330] A. Correct.

Q. 1939, Tucson division, \$1.215?

A. Correct.

Q. Salt Lake division, \$1.151?

A. Correct.

Q. These figures which we have just given from 1932 to 1939 are Fort main line and branch combined?

A. Yes.

[fol. 2331] Mr. Strouss: Now, did you get a break-down of those commodities by commodity?

A. No, I didn't do that. I will later on in this trial present an exhibit that will show that, if that is satisfactory to you.

Mr. Strouss: Yes, that is all right.

Q. Now, the main line operated and branch line operated, item 1, of the exhibits 162, 163 and 164.

A. 162 cover the System. I haven't any figures here, I may have them later on in the afternoon. I have asked San Francisco to furnish them. On 163, I understood you to say, you only wanted the last.

Q. 1939.

A. Yes, 1939. I have 1939. 1939, for the Tucson Division, Exhibit 163, Main Line, 629.30; branches 326.43, which totals the 955.73 shown on the exhibit. On exhibit 164 for the Salt Lake Division, miles of line operated, main line, 722.12, branches 356.20, which totals 1,078.32 shown on the exhibit.

Mr. Strouss: No further questions.

Mr. Mason: No further questions.

The Witness: Do I understand that you are not releasing me now?

[fol. 2332] Mr. Strouss: That is right. At this time I want to go over the Arizona items.

Mr. Mason: I think, your Honor, that I can defer any redirect examination until the cross-examination has been completed. It would probably be preferable.

The Court: All right.

Mr. Mason: So we can excuse Mr. Masson for the time being.

The Court: You may be excused for the time being. You may call your next witness.

Mr. Mason: We will call Mr. G. C. Baker.

G. C. BAKER was called as a witness on behalf of the defendant and, being first duly sworn, testified as follows:

Direct examination.

By Mr. Mason:

Q. Please state your name and official headquarters, Mr. Baker.

A. G. C. Baker, San Francisco, California.

Q. Are you employed by the Southern Pacific Company?

A. Yes, sir.

[fol. 2333] Q. In what capacity?

A. Assistant superintendent of transportation, Pacific Lines.

Q. How long have you been assistant superintendent of transportation?

A. Since August, 1939.

Q. Have you had ~~previous~~ railroad experience?

A. Yes.

Q. With what railroads?

A. Principally all my railroad experience has been on the Southern Pacific, that is, the lines which comprise the Southern Pacific such as the Arizona Eastern and the E. P. & S. W.

Q. You started with the Arizona Eastern?

A. Yes, sir.

Q. When?

A. 1916, as an operator on the old Globe Division.

Q. Then you worked for a while for the El Paso and Southwestern?

A. Yes, sir.

Q. When that was an independent property?

A. Yes, sir.

Q. Where did you work for the El Paso and Southwestern?

A. On the Western Division at various points between [fol. 2334] Douglas and El Paso.

Q. Did you work for a while at El Paso itself?

A. Yes, at the Union Depot for the Union Depot Company.

Q. When did you go to work on the Tucson Division of the Southern Pacific?

A. June, 1918.

Q. In what capacity?

A. As telegraph operator.

Q. And how long did you work as an operator and agent on the Tucson Division at that time?

A. From 1918 until 1923 I worked as an operator, and then I was assigned duties as a train dispatcher, and I continued as train dispatcher until 1932 at Tucson, when, due to reduction in forces, I was sent to El Paso as train dispatcher.

Q. Now, as operator and agent on the Tucson Division in the period between 1918 and 1923, did you serve at various points along the line?

A. Yes.

Q. You served, then, as dispatcher at Tucson for nine years, approximately.

A. Yes, sir.

Q. And then at El Paso for how long?

A. I was in El Paso on two different occasions. The first [fol. 2335] time about six months, and the second time about three months.

Q. After your experience at El Paso as train dispatcher, what positions did you next occupy?

A. I was brought to Tucson in October, 1936, as acting chief train dispatcher, and in December of the same year I was appointed chief train dispatcher for the Tucson Division.

Q. Did you serve as agent at Gila or Yuma?

A. Yes, I was agent at Gila a year, and I was agent at Yuma for two and a half years.

Q. Was that immediately prior to 1936?

A. Yes, sir.

Q. When you were train dispatcher at El Paso, were you employed on the Rio Grande Division?

A. Yes, sir.

Q. How long were you chief dispatcher at Tucson?

A. From October, 1936 until August, 1939.

Q. Since 1939 you have been assistant superintendent of transportation?

A. Yes, sir.

Q. Will you describe your duties as assistant superintendent of transportation?

A. Well, the superintendent of transportation, to whom [fol. 2336] I am assistant has jurisdiction over the distribution of freight and passenger equipment on the Pacific Lines. We distribute it so as to protect the traffic needs of the shippers, and the needs of the traveling public. We also make our passenger and freight schedules, supervise the maintenance of those schedules to see that on-time performance may be made as nearly as possible, and we also handle all car service matters and the interchange of traffic with our connecting lines.

[fol. 2337] Mr. Mason:

Q. Who is the superintendent of transportation?

A. W. B. Kirkland.

Q. Are you his immediate assistant next in charge of the department or bureau called "Office of the Superintendent of Transportation"?

A. Yes.

Q. Does your jurisdiction extend to all parts of the railroad system known as the Pacific lines?

A. Yes, sir.

Q. Are you familiar with the documents sometime heretofore described as the working timetables or employees' timetables?

A. Yes, I am.

Q. Are those prepared and kept of record in the Office of the Superintendent of Transportation?

A. They are in this way, we set up the schedules but the immediate work is done by the chief train dispatcher of each division.

Q. Have you yourself as dispatcher and as chief dispatcher participated in the preparation of timetables?

A. Yes.

Q. I have here a file and I will ask you to examine the file of timetables which bears at the top, "Southern Pacific [fol. 2338] Company, Pacific Lines, Timetable for the Western Division, 231, to take effect Sunday, September 29,



1940, at 12:01 A. M." Will you examine that and the other timetables and state whether this folder of timetables which you have before you is a complete set of the most recent employees' timetables for the Pacific lines including paired track territory?

A: They are with one exception, there is a later Western Pacific timetable out that was effective on January 5, 1941, that is the Western Pacific on paired track territory.

Q: That would replace the Western Pacific paired track timetable which is included within this group, would it?

A: Yes, sir.

Q: Does that later timetable for the Western Pacific make any changes or substantial changes so far as you know with respect to the operation of Southern Pacific trains?

A: None whatever in the operation of Southern Pacific trains. Their times are the same. They made a few changes in the Scenic Flyer.

Q: There is a train here referred to as the "Exposition Flyer"?

A: That is it.

Q: Their train No. 40?

[fol. 2239] A: Train No. 39 and 40, there are slight changes made in their schedules.

Mr. Mason: Have you any questions as to these timetables, Mr. Strouss?

Mr. Strouss: No.

Mr. Mason: We intend to offer them now as an exhibit by this witness. These or their predecessors in issue have been furnished during or prior to the start of the trial. We offer this group of timetables as one exhibit, your Honor.

Mr. Strouss: No objection.

The Court: It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 175.")

Mr. Mason:

Q: Mr. Baker, I notice that certain of these timetables, for example, the Salt Lake division timetable, show the name of G. C. Baker as assistant superintendent of transportation. Are you the G. C. Baker whose name is shown there?

A: Yes, sir.

Q. That appears on others of these timetables?

A. Yes, sir.

Q. I think you spoke a few minutes ago in describing your duties, that the Office of Superintendent of Transportation deals with schedules of freight and passenger trains?

[fol. 2340] A. Yes, sir.

Q. I will ask you whether the Southern Pacific Company maintains or jointly with other carriers participates in maintaining through schedules for the movement of freight in transcontinental movement, that is to say, between the eastern part of the United States and the Pacific Coast territory?

A. Yes, it does.

Q. Addressing yourself to the map, exhibit No. 1, the enlargement of which is on the easel, over what routes do those schedules apply, as the routes appear upon that exhibit?

A. Our main route is the route between Roseville and Ogden, which we generally refer to as the "overland route" and over the southern route between Colton, California, and El Paso-Tuamcari, New Mexico.

Q. Those schedules between Roseville and Ogden and between Colton and El Paso-Tuamcari, do you have in mind particularly eastbound schedules?

A. Eastbound, yes.

Q. As to the westbound schedules, do those apply to Pacific Coast terminals?

A. Yes, except on your westbound schedules the schedules are extended to the Bay area, San Francisco-Oakland, [fol. 2341] on the overland route, and to Los Angeles and San Francisco via southern route.

Q. Do the westbound schedules contemplate any delivery times at intermediate points, such as Sacramento, or direct route points, such as Fresno?

A. We don't have what is stated as an actual arrival time at those points, but we do have a day of arrival designated, for example, from Chicago to Sacramento as the fifth day, although it generally provides a sixth morning delivery. The same is in effect with respect to Fresno traffic.

Q. As to schedules eastward and westward through the southern route between Los Angeles or Colton, as the case may be, and eastern points, with what carriers at the El Paso gateway are these schedules jointly maintained?

A. Santa Fe, Texas and Pacific, and the T. & N. O. line.

Q. Do they extend to the eastern connections of those railroads at their terminals or junctions?

A. Yes, and their connections.

Q. With what carrier at the Tucumcari gateway?

A. The Rock Island.

Q. Does that contemplate through movement, Southern Pacific and Rock Island, to eastern consuming points?

[fol. 2342] A. Yes.

Q. Will you name some of those points?

A. The principal ones are Kansas City, St. Louis, and Chicago.

Q. Do the same schedules apply over alternate routes beyond the Missouri River, for example?

A. Yes.

Q. Will you indicate what some of those other routes might be?

A. Out of Kansas City we have the Alton; the Wabash; the Rock Island also operates east of Kansas City into St. Louis; the B. & O., I believe, I am not sure, I believe the B. & O. operates with a connection out of Kansas City.

Q. Would that be in connection with the Alton out of Kansas City?

A. Yes.

Q. Do those schedules apply with a delivery time at St. Louis?

A. Yes.

Q. Is there any schedule in connection with this movement over the southern route contemplating delivery at points like Washington or Philadelphia or New York City?

A. Yes, sir.

Q. What carriers would participate?

[fol. 2343] A. The principal perishable carriers east of Chicago generally referred to are the Erie, Pennsylvania, and New York Central lines, and out of St. Louis the Pennsylvania is one of the principal carriers.

Q. As to the movement through the Ogden gateway over the route from San Francisco or Roseville eastward, with what carriers does the Southern Pacific participate in movement through that gateway?

A. We make direct connections with the Union Pacific and the D. & R. G. W. at Ogden.

Q. The Union Pacific, it has been previously testified, terminates at Omaha?

A. Yes.

Q. Do the schedules apply in conjunction with the connections at Omaha or Council Bluffs?

A. Yes.

Q. What lines east of Council Bluffs?

A. Chicago & Northwestern, they have several lines there, Chicago & Northwestern; Illinois Central; and the C. & G. W.

Q. Do other Missouri River lines participate if there are other lines operating between Council Bluffs and Chicago?

A. Yes, they all participate in the through schedules.

[fol. 2344] Q. As to westbound schedules, do you have a corresponding participation in the same manner as the eastbound?

A. Yes, the same manner.

Q. Mr. Baker, have you before you a chart exhibit in one sheet bearing also some typewritten material and showing in the lower righthand corner of the sheet "Southern Pacific Company (Pacific Lines), Eastward Perishable and Westward Manifest Schedules"?

A. Yes, this is for the southern route.

Mr. Mason: May we have this chart marked as "Defendant's Exhibit No. 176" for identification?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 176 for identification.

Mr. Mason:

Q. Did you prepare exhibit No. 176 for identification or supervise its preparation?

A. Yes, I did.

Q. First of all I will ask you as to the information shown in the table at the righthand side of the sheet headed "Over-all Times." From what did you take that information?

A. That is the over-all time shown in our schedules which is the over-all time from departure, in this first case, [fol. 2345] from Chicago and Los Angeles.

Q. Is this information taken from the record of these schedules actually maintained in the Office of the Superintendent of Transportation?

A. That is right.

Q. Do these represent the present-day schedules?

A. Yes, sir.

Q. Going to the chart itself, do you show on the chart the names of certain cities or stations with figures? What is the significance of these names of towns and stations and why are they placed in this particular order?

A. The numeral appearing after those stations is the distance from Colton, California.

Q. Why are these stations placed in the order in which they appear? You place first Los Angeles, then Colton, then Yuma, and so on.

A. That is on a direct route in which they appear on our lines.

Q. What is the significance of the spacing between successive stations, that is, for example, you have Colton and Los Angeles fairly close together and quite a distance between Tucson and El Paso?

A. That is the mileage that was drawn to a certain mileage scale.

[fol. 2346] Q. Is this an approximate mileage scale all the way across from Los Angeles to Chicago and St. Louis?

A. Yes.

[fol. 2347] Q. Now, you show St. Louis once on the chart adjacent to New Orleans and then again on the chart at the extreme lower right-hand corner. Do those represent mileages to St. Louis by two different routes?

A. That is right; the first one to St. Louis, 1998 miles via Kansas City, and the other one to St. Louis, 2,458 miles is from Los Angeles via Corsicana. The first one there, 1,998 miles, is the mileage from Colton to Kansas City via—Colton to St. Louis via Kansas City.

Q. Now, the route via Kansas City, is that also the route via Tucumcari?

A. Yes, sir.

Q. And is a relatively direct route?

A. Yes, sir.

Q. Whereas the other is the route by the Texas & New Orleans via San Antonio and Corsicana?

A. Yes, sir.

Q. And then by what railroad?

A. The Cotton Belt, the St. Louis and Southwestern.

Q. Now, you show New Orleans adjacent to St. Louis on the chart. Is there merely because the mileage happens to fall close together?

[fol. 2348] A. Yes, sir.



Q. And, by the way, this mileage from New Orleans, is that 1,991 from Colton, or 1,991 from Los Angeles?

A. That is from Los Angeles.

Q. Now, on the right-hand side of the chart, you start out—I should say on the left-hand side of the chart, but it is also on the right-hand side, you show a series of blocks designated by horizontal lines and then the first, naught day, first day, and so on. Reading down from the top of the chart, what is the significance of that particular portion of the chart?

A. Each one of those blocks represents a twenty-four hour period.

Q. Now, let us go to the line which starts at a point on the vertical line opposite the word "Colton" and which is marked "3:00" in the upper left-hand corner of the chart, and which appears to continue with some breaks until it ends opposite the line which represents or appears opposite the name of Chicago between the sixth and seventh days in the lower right-hand corner of the chart, in other words, the upper slant line that runs from the upper left-hand corner toward the lower right-hand corner of the chart; what does [fol. 2349] that line indicate?

A. That line indicates the basic schedule of our Colton freight trains and the three dash zero, zero, represents three A. M. departure from Colton. On the first line there opposite Yuma, it shows 3:00 P. M. and 4:00 P. M.

Q. At Yuma?

A. At Yuma.

Q. How do you know that that is 3:00 A. M. at Colton? Is that because it is in the first part of the day?

A. That is right. It is near to the top of the block.

Q. And do you know it to be 3:00 P. M. at Yuma for the reason it is near the end?

A. Yes, sir.

Q. Would that explanation apply to other times shown on the chart?

A. Yes, clear through.

Q. What is the significance of the line which starts at the vertical line opposite Colton at a point designated "7:00" and which apparently would be 7:00 P. M.?

A. That is the run-off schedule.

Q. Are those lines associated with the tabulation of over-all times on the right-hand side of the exhibit?

[fol. 2359] A. Yes.

Q. Now, you show, for example, under column A, Colton Basic, and then under column B, Colton, then under column C, Chicago, then under column D, Hours and Minutes. Does the line marked "Basic" here correspond with that basic schedule from Colton?

A. Yes, that is a 3:00 A. M. departure from Colton on the first day with 12:30 A. M. arrival at Chicago on the seventh day, 139 hours 30 minutes.

Q. Is that the present-day schedule from Colton to Chicago?

A. The present-day schedule.

Q. You show here a figure "16 hours" which apparently is the time interval from 3:00 A. M. to 7:00 P. M. What is that 16 hours?

A. That is what we call—we have a sixteen-hour run-off.

Q. And that sixteen hours is the run-off time?

A. Yes, sir.

Q. Then you speak of a run-off schedule. What is the significance, then, of the run-off schedule?

[fol. 2351] A. Well, due to the large area in which these perishables are loaded, from our concentration point it runs from Colton up around 204 miles, we allow shippers to load the traffic up to 11:59 P. M.

Q. Would that be on zero day?

A. On zero day. It is obvious that at a point, for instance, the Santa Maria Valley, over 200 miles away, loading up to 11:59 P. M., that we couldn't get out of Colton at 3:00 A. M. So we allow, in order that all shippers in the Zone 1 territories, the concentration points, will be on a comparable basis, we have what we call the 16-hour run-off, which provides that any traffic arriving at concentration points at or prior to 7:00 P. M. after the day loaded, will be afforded the basic schedule of that day.

Q. Does that mean that you operate that train so as to make the same arrival at Missouri River and Chicago as if it had left at 3:00 A. M.?

A. That is right.

Q. What happens to that sixteen hours?

A. Well, that is run-off. The run-off time is prorated between the various lines according to mileage or run-off agreements.

Q. Here you show, for example, on this run-off schedule, [fol. 2352] you show times at Yuma, Tucson, El Paso

and Tucumcari. Does that mean that the train making the run-off schedule has to operate to make those times at those intermediate points?

A. That is right.

Q. You show here also in the table an Imperial Valley schedule, and I notice a reference to Imperial Valley Schedule in the sloping lines, this sloping line happens to be a line consisting of long dashes, what is the basic schedule of the Imperial Valley traffic and from what point does that apply?

A. The concentration point for the Imperial Valley traffic is Yuma, and it is a one day shorter schedule than traffic from Colton. The traffic basic schedule is due to leave Yuma at ten A. M. on day one, and arrive at Chicago at 12:30 A. M. of the sixth day, or 109 hours and 30 minutes, as shown in the table.

Q. In order to place this on the same chart, however, you seem to show the departure from Yuma on the second day. Would that be the first day following loading?

A. That is the first day following loading, yes.

Q. Now, do you have a run-off on the Imperial Valley [fol. 2353] Schedule?

A. Yes, we have a six hour run-off on that. That is because the distance that the traffic is loaded is not so far away from the concentration point, and we only allow six-hour run-off on that traffic.

Q. Here, finally, you show another set of sloping lines that appear to go only as far as El Paso, consisting of dots or short dashes, an apparently basic Arizona schedule. To what traffic does that apply? From what concentration point and origin territory?

A. That applies to the traffic from the Salt River Valley, for which Phoenix is the concentration point.

Q. What is your basic departure time at Phoenix?

A. 12:01 A. M. and that traffic has a 24-hour faster schedule than the Yuma schedule and two days shorter than the Colton traffic.

Q. Do you have any run-off time on the Salt River Valley traffic?

A. Yes, we have a five-hour run-off on that traffic, which is put in principally for allowing the pre-cooling of traffic from the Salt River Valley.

[fol. 2354] Q. These basic schedules shown on the right-hand side, do they correspond exactly to these sloping lines from the upper left to the lower right?

A. Yes, they do.

Q. Now, as to the lines from the upper right to the lower left of the chart, which are designated with various letters and appear close to an arrow marked "westward," what is the significance of those lines?

A. Those are our westbound manifest schedules over the Southern route.

Q. You show the times, the over-all times for these westward schedules in the tabular block on the exhibit?

A. Yes.

Q. And then what do the lines indicate with reference to the westward schedules?

A. Well, the same as the lines for the eastward schedules there. For example, your first line "SSW (Sunset West)" that schedule is due to leave New Orleans at 9:00 A. M. the first day. You can trace that through to where it is shown due to arrive in Los Angeles at 7:00 P. M. of the fifth day, an over-all time of 108 hours.

Q. Now, you show that line from New Orleans converging [fol. 2355] with the line from Chicago, they apparently meet at El Paso. Does the same schedule continue from El Paso with one line?

A. No.

Q. Yes, it is from St. Louis.

A. It converges with the line from St. Louis to Chicago; that is the St. Louis via Corsicana Route, which converges and is consolidated and assumes the same schedule as the S.S.W. from El Paso.

Q. Then this other line originates apparently at—is that, twelve noon at Chicago?

A. Twelve noon at Chicago.

Q. That represents the Chicago through schedule via what route?

A. The Rock Island.

Q. Via Tucumcari?

A. Yes, via the Tucumcari Gateway.

Q. I will ask you this, Mr. Baker, is the information, shown on exhibit 176 for identification, information which comes to you regularly and necessarily as a part of your duties as assistant superintendent of transportation?

A. Yes, sir.

Q. Do you participate yourself in the making of these schedules, or any of them?

[fol. 2356] A. Yes; I take part in all discussions prior to the final schedule meetings in which the schedules are actually approved.

Q. Were any of these schedules placed in effect before you assumed your present position as assistant superintendent of transportation?

A. Yes, the westbound schedules were, and also the east-bound schedules were all in effect except the 12:30 A. M. seventh-day arrival at Chicago has been changed. When I was first appointed assistant superintendent of transportation, the basic schedule at that time provided for 7:00 A. M. seventh day arrival at Chicago.

Q. That is the Colton schedule?

A. That is the Colton schedule, yes.

Q. Were you, as chief dispatcher at Tucson, familiar with these schedules to any extent?

A. Yes, very much.

Q. Does the chief dispatcher's duties include any observance of schedules?

A. Yes, that is one of his most important duties.

Q. Will you say whether or not the exhibit is true and correct as a representation of the basic schedules, of the schedules as indicated as they apply at the present time?

[fol. 2357] A. Yes, to the best of my knowledge and belief, it is.

Mr. Mason: Have you any questions, Mr. Strauss?

Mr. Strauss: Yes.

Q. Mr. Baker, on the line at the top left-hand side, beginning with the vertical line opposite the name "Colton" three A. M. and in Yuma three P. M., then the line drops down, apparently, the train leaves there at four P. M.; is that what that indicates?

A. Yes, that indicates one hour terminal time at that point.

Q. For icing?

A. For icing and inspection of train.

Q. At El Paso there is three hours?

A. That is right.

Q. Those trains from there on apparently go on through without any terminal delays?

A. Well, of course, on the Tucuman route we would have some terminal delay at division terminals such as Carrizozo, but I don't show that thing on here because we



don't in our schedules show Carrizozo, but we do show in our schedules El Paso to Yuma time.

Mr. Strouss: This probably would be more cross-examination, [fol. 2358] nation, but I would like to ask this question.

Q. Is there no peristables, are they iced after they leave El Paso going east before they reach Chicago?

A. That depends on the class of refrigeration under which they are moved. If they are moved under standard refrigeration, they are iced at all icing stations between El Paso and Chicago.

Q. And this difference in arrival and departure would be due to some extent to delays for icing and inspection of trains?

A. Yes.

Mr. Strouss: That is all.

Mr. Mason: Mr. Strouss asked you just now, Mr. Baker, if the hour's delay at Yuma was due to icing and inspection. Is there any other element of railroad operation that creates delay at Yuma?

A. Yes.

Q: What is it.

A. We have to reduce practically all our eastbound trains at Yuma to conform with the 70-car limit law of Arizona.

Q. Does that take up part of that hour that is shown as being allowed there?

A. Yes.

The Court: Mr. Baker, which side of the river are your [fol. 2359] yards located and where does this change take place?

A. On the Arizona side, your Honor.

Q. In other words, you run long trains across the river into Yuma?

A. Yes, sir.

Q. You have met no objection to that movement?

A. No, sir.

Mr. Strouss: That has been the case for years?

A. Yes, sir.

Mr. Mason: The choice, Mr. Baker, was between operating long trains into Arizona or constructing a terminal on the California side, wasn't it?

A. On the California side, yes, sir.

Q. What, if anything, has ever been done about this operation of long trains into Yuma that you know of?

Mr. Strouss: If you know?

A. I just don't quite understand your question, Mr. Mason.

Mr. Mason: Do you know of anything ever having been done by the state, county or city authorities as to the operation of long trains across the bridge at Yuma?

A. Oh, No.

[fol. 2360] Q. But there is a long train operation in Arizona there?

A. Yes, across the river into the yards inside of Arizona.

The Court: I think we will take our mid-afternoon recess at this time, gentlemen.

(Thereupon, a short recess was taken, after which the witness was recalled to the stand, and proceedings were resumed as follows:)

[fol. 2361] Mr. Mason: We offer exhibit No. 176 in evidence at this time.

Mr. Strouss: I have no objection.

The Court: It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 176.")

Mr. Strouss: I have one further question I want to ask. You also take a full hour at Tucson as well as Yuma, do you not, Mr. Baker?

A. Yes, sir.

Mr. Mason: Mr. Baker, exhibit No. 176 as you stated in your references to it prior to its admission refers only to schedules on the so-called "southern route" or the route across Arizona, is that correct?

A. That is correct.

Q. I will ask you if the schedule eastward from northern California concentration points particularly Roseville on the eastward movement of perishables is the same so far as the over-all time is concerned to Chicago and St. Louis?

A. That is correct, the basic schedule is the same from all California concentration points.

Q. What about the cut-off or run-off time from Roseville, is that the same?

A. It is the same.

[fol. 2362] Q. You show a present-day schedule, Colton to Chicago, of 139 hours and 30 minutes with a cut-off schedule of 123 hours and 30 minutes. Have those times always been the same as they are at present?

A. No, there have been numerous changes in those schedules. In April, 1918, they had an over-all schedule of 189 hours with no run-off.

Q. Did that apply alike at Roseville and Colton?

A. Yes.

Q. What provision, if any, was made as to the so-called "Zone 1 territory" or origin territory?

A. At that time there was only Zone 1 territory which was in close proximity to the concentration point, within fifty to one hundred miles.

Q. Are Colton and Roseville themselves points of heavy production?

A. No, there is heavy production in close proximity to those points, like the hillside fruit country around Roseville and the orange groves south of Colton and Riverside.

Q. What was the departure time at Roseville on the 1918 schedule of 180 hours?

A. That was 3 A. M. the first day.

Q. Was that the day following loading?

[fol. 2363] A. Following loading.

Q. And the arrival at Chicago?

A. 5 P. M. the eighth day.

Q. Was there any provision for run-off at that time?

A. No.

Q. Was there a similar schedule from Colton at that time?

A. Yes, from Colton we had 189-hour schedule providing for a six A. M. first-day departure from Colton to 5 A. M. the ninth-day arrival at Chicago with no run-off provided.

Q. When was the next change made in the basic schedule from Roseville and Colton and what did it amount to?

A. February, 1921, after the period of government control the basic Colton schedule was reduced to 154 hours and the Roseville schedule to 154 hours.

Mr. Strouss: Don't we have this in the record already, Mr. Mason?

Mr. Mason: I think not so far as the Southern Pacific is concerned; not the same history that the witness has before him now. We have some history but not in the same fashion so far as Southern Pacific is concerned. It addressed itself to the Santa Fe and the witness Fertig [fol. 2364] of the Rock Island gave some of the story of the schedules but all that either of them said so far as Southern Pacific was concerned was that all of the competing and connecting lines make the same schedules.

Mr. Strouss: I had forgotten that it didn't apply to the Southern Pacific.

Mr. Mason: I know that it does apply to the Southern Pacific but I don't know that the record shows it.

The Court: Let's shorten it if we can.

Mr. Mason: I will shorten it as much as possible and simply refer to the times and the dates.

Q. After 1921 was there a change to provide for a run-off time?

A. On the Colton schedule, in September, 1924, they provided a three-hour run-off schedule.

Q. With 154 hours basic?

A. 154 hours basic.

Q. When was the next change in the Colton schedule?

A. In the Colton schedule in 1927 a run-off time was increased to seven hours.

Q. Was there a change made in the Roseville schedule in 1926?

A. In 1926 there was a twelve-hour run-off established. [fol. 2365]

Q. With the same basic time of 154 hours?

A. Yes.

Q. Will you refer to the 1929 changes?

A. On the Colton schedule in June, 1929, the schedule was reduced to 146 hours with a seven-hour cut-off and the Roseville schedule was also reduced to 146 hours basic schedule with a sixteen-hour run-off.

Q. That took place in June, 1929?

A. Yes.

Q. Was the Colton schedule later changed so as to provide also a sixteen-hour run-off?

A. Yes, that was done in May, 1932, and both schedules remained the same until May, 1940, when the present schedule of 139 hours and 30 minutes with a sixteen-hour run-off was established.

Q. What was the change made in August, 1937, insofar as perishable from Zone 1 territory was concerned? Was there a change made in August, 1937, in that respect?

A. Yes, there was a change made there to provide that perishable from Zone 1 territory which arrived at California concentration points up to 7 P. M. would be provided with what they call Zone 1 schedules which provide [fol. 2366] for 3 A. M. basic schedule first day after loading.

Q. Is the Zone 1 territory which concentrates at Colton and takes a schedule out of Colton the same territory as the Zone 1 territory which concentrates at Roseville and takes a schedule out of Roseville?

A. No, Colton is a concentration point for traffic as far north on the coast line, which includes the Santa Maria and Guadalupe districts, and as far north on the San Joaquin Valley route as Caliente.

Q. Caliente is a point just a short distance south of Bakersfield?

A. South of Bakersfield.

Q. What is the distance from Caliente to Colton?

A. It is approximately 215 miles.

Q. And from the Santa Maria Valley to Colton?

A. 260 some odd miles.

Q. Has the Zone 1 territory for Colton always included this extent of Zone 1?

A. No, at first it only embraced the territory in close proximity to Colton, such as the south branches from Los Angeles around Santa Ana and Riverside and those points.

Q. That would be the territory intermediate between [fol. 2367] Los Angeles and Colton?

A. Yes.

Q. When was the extension made to include the Santa Maria Valley?

A. That was made in May, 1932.

Q. What is the present extent of the Zone 1 territory from Roseville southward?



A. That extends as far south as the Arvin branch, which is just south of Bakersfield, on the Arvin branch out of Bakersfield, a distance of approximately 310 miles, I believe it is.

Q. Does it extend north of Roseville in the Sacramento Valley?

A. Yes, it comprises both sides, east and west side of the Sacramento Valley as far north as Tehama where the two lines converge.

Q. Does it include the San Francisco Bay district?

A. The Bay district and also the northwest Pacific territory as far north as Ukiah.

Q. Does it include the producing area around Salinas and Watsonville?

A. Yes, it goes as far south as Molus on the south line, which is a point just out of Salinas.

Q. You mean on the coast line?

A. On the coast line.

[fol. 2368] Q. Does it include the Santa Clara Valley around San Jose?

A. Yes.

Q. Has that Zone 1 territory for Roseville been extended from time to time?

A. Yes, that has been extended from time to time since July, 1926.

Q. Was it first established in July, 1926?

A. It was established before that but at that time it only took in a small amount of territory around Roseville.

Q. As far as Stockton?

A. Stockton and Walnut Grove branches and what they called the "hillside fruit," which is east of Roseville, and some traffic up as far as Marysville.

Q. Is there any extension of the release time of shipments past 11:59 P. M. of the day of loading by reason of pre-cooling?

A. Yes, in California we have agreed to let the shippers pre-cool up to 5 A. M. following the date of loading.

Q. Does that mean that the traffic need not be released by the shipper until 5 A. M.?

A. That is right.

Q. Does such pre-cooled traffic released at or prior to 5 A. M. take the schedule originating at 3 A. M. of that [fol. 2369] day?

A. That is right.

Q. Does that apply from both northern and southern California?

A. Yes, sir, with the exception that there is very little pre-cooling done on the Colton traffic with the exception of Valencia oranges.

Q. Turning to the eastward schedules from the Imperial Valley and the Salt River Valley, when was the first schedule established on Imperial Valley traffic and what was the over-all time?

A. In May, 1918, an over-all time of 160 hours with no run-off.

Q. Was that from Yuma?

A. From Yuma, yes.

Q. To what point?

A. Chicago.

Q. Was that reduced in 1921?

A. Yes, that was reduced to 145 hours.

Q. When was the next reduction?

A. In May 1927, it was reduced to 134 hours and 30 minutes.

Q. Was it reduced again in May, 1929?

A. Yes, reduced to 127 hours and 30 minutes and provided a three-hour-and-30-minute run-off.

Q. When was the next reduction?

[fol. 2370] A. In September, 1935, it was reduced to 121 hours with the same run-off and in 1937 it was raised thirty minutes and provided a six-hour run-off. In December, 1937, the present schedule was adopted, which is 109 hours and 30 minutes with a six-hour run-off.

Q. Is there any provision for a later cut-off time on account of pre-cooling of traffic concentrating at Yuma?

A. Yes, Imperial Valley and Yuma traffic, we allow it to 2 A. M. to pre-cool it.

Q. When was the first schedule made effective on Salt River Valley traffic?

[fol. 2371] Q. When did that take place?

A. In March, 1927.

Q. Did you make a further reduction in December of the same year?

A. In December, 1927, it was reduced to 124 hours.

Q. What further reductions were made after that time?

A. In June, 1928, they were reduced to 123 hours; in May, 1929, to 115 hours and 30 minutes; in May, 1930,

to 11 hours and 30 minutes; in December, 1930, to 110 hours; in July, 1932, to 109 hours and 30 minutes with a three-hour run-off; in July, 1933, it was reduced to 109 hours and 30 minutes; in December, 1937, it was reduced to 95 hours and 30 minutes with a five-hour run-off.

Q. You now have a five-hour run-off on the basic schedule of 95 hours and 30 minutes?

A. Yes, sir.

Q. Do you allow additional time past the scheduled departure hour for pre-cooling of Salt River Valley traffic?

A. Yes, we allow until 2 A. M. for that traffic.

Q. Does this additional time allowance for the release of pre-cooled traffic have any effect of cutting down the actual [fol. 2372] time allowed for the transportation?

A. Yes, it does. Where this traffic is produced, of course it is not a very long distance from Phoenix, but at the same time when the shippers take full advantage of the 2 A. M. pre-cooling it takes from two to three to four hours to bring that traffic into Phoenix, ice it, and assemble it, and depart from Phoenix. It brings it to 5 or 6 A. M. departure of pre-cooled traffic during the peak season.

Q. Does the pre-cooling allowance on traffic concentrating at Yuma have any similar effect?

A. Yes, it has a similar effect.

Q. What about the pre-cooling allowance of traffic concentrating at Colton?

A. It has the same effect also, that is the reason why we have a much longer run-off time.

Q. I think you referred to manifest schedules westward. Do you also have eastward manifest schedules?

A. Yes, we have eastward manifest schedules but all of our manifest traffic is moved in perishable trains. It is a very rare occasion where we will operate a train identified wholly as an eastern manifest train.

Q. Does eastward manifest obtain the same movement, [fol. 2373] generally speaking, as eastward perishable?

A. Yes, they do.

Q. As to your west manifest schedules, when was the first schedule established on west manifest from Chicago to Pacific Coast lines?

A. I have a record back to November, 1918, a schedule of 226 hours. I have one in December, 1917, between Chicago and San Francisco, which provided a schedule of 218 hours and 30 minutes. In November, 1918, a schedule of

226 hours was established for traffic between Chicago and Los Angeles.

Q. Has that Chicago-Los Angeles schedule of 226 hours been reduced at various times since?

A. Yes, sir.

Q. Will you state the dates of the reductions and the over-all hours?

A. In March, 1926, between Chicago and Los Angeles the schedule was reduced to 198 hours and 25 minutes; in May, 1928, it was reduced to 162 hours, and on Chicago to San Francisco traffic in the same year it was reduced from 218 hours and 30 minutes to 161 hours and 30 minutes; in June, 1929, the Chicago-Los Angeles schedule was reduced to 137 hours and 45 minutes, and the Chicago-San Francisco schedule to 141 hours; in November, 1930, the Chicago-Los Angeles schedule was reduced to 134 hours and 15 minutes; [fol. 2374] in July, 1933, the Chicago-San Francisco schedule was increased one hour over the schedule of 141 hours that was in effect in June, 1929, and was increased to 142 hours; in February, 1934, the Chicago-Los Angeles schedule was increased one hour; in April, 1935, it was reduced to 134 hours; in November, 1935, it was reduced to 116 hours and the Chicago-San Francisco schedule was reduced to 118 hours.

Q. That was a twenty-four-hour reduction in each one at that time, was it?

A. Yes, in June, 1939, the Chicago-Los Angeles schedule was reduced one hour to 109 hours and in September, 1940, the Chicago-San Francisco schedule was changed, reduced to 112 hours and 30 minutes; on June 3, 1940, we set up a schedule of sixth-morning delivery, Chicago to Los Angeles, and Chicago to San Francisco, which put the traffic from Chicago to both areas on a parity, although the over-all schedule may differ a few hours but the delivery time of 7 A. M. sixth morning is the same.

Q. Where perishable moves from concentration points that you have named, do you have any means of grouping or identifying the perishable cars as they move?

[fol. 2375] A. Yes, each concentration point's traffic is identified with a symbol.

Q. What is the symbol used for traffic originating at Yuma?

A. A Y.

Q. At Colton?

A. "C."

Q. At Phoenix?

A. "A."

Q. "A" for what?

A. Arizona perishable.

Q. Besides that letter symbol do you use any other numerical symbol?

A. Yes, we start in the first day of the year and number the blocks consecutively throughout the year.

Q. Of what does a block consist?

A. It consists of the perishable traffic that is concentrated at that point and leaving on the basic schedule day of departure.

Q. Does that mean all cars that move on a particular day receive the same block number?

A. No.

Q. How many cars are there in a block?

A. There can be any number, two cars or one hundred cars.

[fol. 2376] Q. Does a block ever include more than 100 cars normally?

A. Quite often they do, yes.

Q. Do I understand that a block is all the cars moving in one particular train?

A. In one unit, each unit operated from concentration point is identified with one number and another following it is given the next number.

Q. Although they move on the same day?

A. Yes.

Q. What will be the identification block number of a group of cars moving from Yuma, what will it read like then?

A. For the first train operating out of Yuma on January 1st it will be "Y-1." That would be the identification of the train then and that identification is carried through to Chicago and Kansas City.

Q. Does the same apply on traffic originating at Colton?

A. Yes.

Q. And the first one would be "C-1"?

A. Yes.

Q. And so on to the end of the year?

A. That is right.

Q. What use do you make of that block identification [fol. 2377] number?



A. That is in order that proper records may be made. The chief dispatcher on a division issues what we call a morning train report and on this train report he refers to these trains by their symbol or identification and then that information is recorded in proper records in our office at San Francisco.

Q. Do you record the times that these blocks make at various terminals en route by block number?

A. Yes.

Q. Do you maintain a permanent record of their movement by block number?

A. We do.

Q. Is there any permanent record of their arrival at destination maintained in the same way?

A. Yes, that is made by the Pacific Fruit Express Company, who furnish us a weekly report showing the arrival of various block numbers at the various destinations, showing the amount of time ahead or late.

Q. Do you give any information to the shippers or owners of this perishable freight as to the movement of their particular shipment?

A. Yes, the Pacific Fruit Express, when the traffic leaves [fol. 378] the concentration points, wires the block number and the number of cars giving the initial car number, shipper, destination, icing instructions, and so forth, to all principal P. F. E. and off-line Southern Pacific agents in the East, such as Denver, Chicago, and Kansas City.

Q. Is the same information given to the agents in origin territory, too?

A. Yes.

Q. You say you have gotten this information to the agents or the carrier agents. What is done with it, if you know?

A. The information is given to the shippers.

Q. Or receivers?

A. Receivers, I should say.

Q. Do cars, for example, which are billed out of Colton or Yuma to Chicago as a destination always move to the billed destination?

A. Oh, no.

Q. What happens to them?

A. Cars are diverted enroute by the shippers or the owners of the cars, whoever it may be. It may be the shipper

may still own the car or if it is sold to someone in the East the receiver in the East may change the destination.

Q. How do they go about to change the destination?

[fol. 2379] A. The shipper or owner of the car who wishes to divert the car files what they call a "diversion" with the Pacific Fruit Express or any of our Southern Pacific agents.

Q. Are you familiar with those diversions yourself?

A. Yes.

Q. What happens then?

A. The P. F. E. then issues instructions, they know where this car is because it is operating on a certain block. They have the record in which the block is operating and if the car is due into El Paso at 7 A. M. on the fifth day of the month and they can catch it at El Paso they generally place the diversion at El Paso or they may place it at Tucson if they can do so in time to catch the car before it departs.

Q. Will that change the way-billing of the diverted car?

A. Yes, they change the heading, that is, the destination, or they may change the icing instructions enroute.

Q. Is El Paso a point at which many diversions are actually performed?

A. Yes, there are many shippers that bill their traffic to [fol. 2380] El Paso. It is what they call "rolling traffic" which hasn't been sold or traffic that has been loaded out on a day and no sale for it and they bill it to El Paso and it is afterwards sold and they bill it for diversion after the car has departed the concentration point.

Q. Have you when you were agent at Yuma actually received such diversions?

A. Very many, yes.

Q. And yourself undertaken to wire them ahead so as to catch the cars?

A. No, at Yuma we have a P. F. E. agent and I transmitted this information to the P. F. E. agent at Yuma who took care of the actual diversion.

Q. Do you know and, if so, will you state whether diversions are of frequent occurrence in proportion to the traffic handled? Do they average as much as one per car or one for every other car or in about what proportion do they occur?

A. I wouldn't say in what proportion but there are many cars that are diverted.

Q. Are cars ever diverted more than once?

A. Yes, that is what I meant to state, that the cars are diverted several times before they reach their final destination.

Q. You have been agent at Yuma and chief dispatcher on the Tucson division, Mr. Baker, and in the course of your [fol. 2381] testimony here you mentioned briefly the fact that trains originating or moving from the Los Angeles division and received at Yuma were reswitched at that point. To what extent does that occur?

A. In our through perishable trains; those trains come in to Yuma all the way from seventy to one hundred or more cars and, as I stated before, it is necessary to reduce them at Yuma to the number of cars which the chief dispatcher wants to handle that is below seventy, or seventy on any east of Yuma.

Q. Are there any of these trains and, if so, in what proportion which are received from the west at Yuma which do not have to be reconsisted at Yuma?

A. There are none that do not have to be reconsisted that I remember of. Occasionally there might be a short stop train or something like that.

Q. I am referring to trains of perishable.

A. Practically all trains have to be reconsisted at Yuma.

Q. What is the primary reason for that reconsisting at Yuma?

A. The Arizona Train Limit Law.

Q. If it were not for the Arizona Train Limit Law, would [fol. 2382] reconsisting at Yuma be generally necessary on these eastward perishable trains?

A. Well, to some extent, yes, it would, but it would be a much more simple operation.

Q. Would there ever be the possibility of running trains from Yuma as they were received from the Los Angeles division?

A. Oh, yes, in a great many instances.

Q. In a great many instances, did you say?

A. Yes, sir.

Q. Will you refer for a moment to passenger train operation. In your experience as chief dispatcher of this division and as agent at Yuma as well as assistant superintendent of transportation will you say whether or not there is any reconsisting of passenger trains at Yuma?

A. Yes, there is.

Q. For what reason?

A. In order that they may keep the train within the requirements of the Arizona Car Limit Law.

[fol. 2383] Q. Will you by reference to example show this or state just how that occurs?

A. Well, in many cases it is necessary that, in order to—I will state it this way. At Yuma we have a standard sleeper operating between San Diego and Chicago, which moves from Yuma on Train 4, and at times it has been necessary that we handle this car on train 6 via another route through Gila instead of through Phoenix and in order to keep No. 4 within the 14-car limit.

Q. Do you ever have No. 6 come to Yuma with fourteen cars?

A. Yes.

Q. And No. 4 also arriving there with fourteen cars?

A. Yes.

Q. And your car from San Diego comes in by what route?

A. Over the San Diego route.

Q. It doesn't come in on either No. 4 or No. 6?

A. No.

Q. Comes in on a connection from San Diego?

A. Yes.

Q. Suppose No. 4 and No. 6 contain fourteen cars, what do you do with the San Diego sleeper?

A. It would be necessary then to split Train No. 4 and [fol. 2384] run two sections.

Q. Do you ever drop a car off of No. 4 and leave it at Yuma in order to handle this sleeper?

A. Deadhead equipment, yes.

Q. Suppose No. 6 comes in with fifteen or sixteen cars; what do you do with them?

A. Well, it is necessary that we split No. 6, also.

Q. Do you ever drop a coach out and run with one less coach?

A. Yes, there are times we have done that, we have crowded some of the passengers into the other coach, and taken the coach off and reduced the train.

Q. Do you know, and, if so, will you state whether any similar situation ever occurs at Lordsburg?

A. Yes.

Q. Will you cite a specific instance of recent occurrence?

A. I believe it was two weeks ago last Sunday I had a call from Tucson, we had a sixteen-car navy special operating into Lordsburg moving from some point in the East.

Q. What was its ultimate destination?

A. I am not sure, but I believe it was San Diego via [fol. 2385] Los Angeles and Santa Fe, I won't say for sure.

Q. It was a California—

A. A California train. And in setting up this operation, it was set up and approved by the Military Bureau at Washington, under whose instructions we are now working when handling troops.

Q. How many cars were on that train when it left El Paso?

A. Sixteen cars.

Q. Were they all occupied?

A. They were all occupied.

Q. How many cars were on the train when it left Lordsburg?

A. Fourteen.

Q. What happened to the occupants of the two cars?

A. It was necessary to transfer the men out of the last two cars into the other equipment and crowd them up until we got to Yuma, then we deadheaded two other tourist cars from Los Angeles to Yuma in order to take care of the men for the night ride.

Q. Have there been other examples of reconstituting [fol. 2386] trains, reconstituting passenger trains at Lordsburg?

A. Oh, yes, it happens quite often.

Q. What is the occasion or reason for such reconstitution?

Mr. Strauss: Just a minute. These general statements happen quite often; I assume you are going to have an exhibit.

Mr. Mason: Well, yes, but I wanted to lay the foundation by a witness who from his past and present experience is familiar with the situation.

A. The reason it is necessary to reconstitute a train is due to the requirement of the Arizona Car-Limit Law.

Mr. Mason: The fourteen-car restriction?



A. Yes, the fourteen-car restriction.

Q. I wish you would refer again to exhibit No. 176. There is one feature of that exhibit which may require a little further explanation. I notice that the basic schedule and the run-off schedule from Colton, being those solid lines under the arrow marked "eastward" converge at Kansas City at seven P. M. on the fifth day. Does that mean that the run-off is intended to be entirely complete by the time—

A. The run-off has been accomplished.

Q. At Kansas City?

[fol. 2387] A. Yes.

Q. Now, I notice that the solid line then diverges from the other solid line and reaches St. Louis at nine P. M. on the sixth day, and Chicago at 12:30 A. M. on the seventh. What is the significance of that divergence of the solid lines after passing Kansas City?

A. Well, the line from Kansas City to St. Louis is the Rock Island route for traffic, and the line to Chicago is through direct connections to Chicago north of Kansas City.

Q. For example, this movement from Kansas City to Chicago might be Rock Island by any other Missouri River connecting line out of Kansas City?

A. Yes, might be any line. The schedule requirement applies to all Missouri River lines.

Q. I understand that the schedule from Kansas City to Chicago does not necessarily apply via St. Louis.

A. No.

Q. This line from Kansas City to St. Louis may then be the Rock Island, as you stated?

A. May be, yes.

Q. Or any other connecting line across the state of Missouri?

A. Yes.

[fol. 2388] Q. Now, does the same explanation apply to the convergence of the basic Imperial Valley run-off schedules, which are shown as coming together at three P. M. on the sixth day at Kansas City?

A. Yes, that is right.

Q. And their divergence likewise?

A. That is right.

Q. Now, you have stated, I think, that these lines on the basic and run-off Colton schedule and the basic and run-off Imperial Valley schedules are those which apply for the Rock Island?

A. Yes, all these eastbound schedules I have here are figured on the Colton traffic routed via the Rock Island through the Tucumcari gateway.

Q. And these are the mileages via that gateway?

A. That is right.

Q. Will you say whether or not the same time schedules apply for traffic which originates or is concentrated at Colton and moves via the Texas-New Orleans and the Corsicana gateway, and the St. Louis Southwestern?

A. Yes, they have the same arrival and the same basic route.

Q. To St. Louis?

[fol. 2389] Yes.

Q. To Chicago?

A. Yes, sir.

Q. And for connection to New York or Washington?

A. That is right.

Q. Are you familiar with the concentration points on the other trunk lines in California?

A. Yes.

Q. What is the concentration point for Union Pacific traffic originating on the line formerly known as the Los Angeles and Salt Lake?

A. That is Colton.

Q. And over what route does that traffic move?

A. That is Union Pacific through Salt Lake.

Q. Salt Lake City and Council Bluffs?

A. Yes.

Q. Do you know and, if so, will you state whether that traffic makes a scheduled arrival time at Chicago similar to your Colton concentrated traffic moving via Tucumcari?

A. The schedules are identical.

Mr. Strouss: I think you have that all in.

The Court: I am wondering if there might not be a stipulation, if it be true that the operations here of the Southern [fol. 2390] Pacific with reference to all of these matters is similar to that of the other lines. The witnesses have testified, and it seems to me you are covering a lot of the

identically same ground that has heretofore been gone over.

Mr. Strouss: I will agree that the basic schedules from California east are the same over all these roads.

Mr. Mason: The only point I had in mind was that the Western Pacific concentrates at Sacramento and makes these same schedules through the Utah Gateway with its connection, and the Santa Fe makes the same schedules from San Bernardino and Bakersfield, either directly or with its connections.

Mr. Strouss: Yes.

Mr. Mason: Well, that has been testified to and I think it is undisputed. There is another matter.

Q: Are there schedules in effect from Oregon by the Nevada Lines and via the Ogden Gateway?

A: Yes, we have a perishable out of Medford Territory in southern Oregon; we handle that into Klamath Falls and then over the old Modoc line to Fernley to connect with [fol. 2391] the cut-off train from Roseville providing the same schedule as provided for in the Roseville blocks.

Mr. Strouss: When you use the term "cut-off train" you use that synonymously with "run-off"?

A: Yes, that is right.

Mr. Mason: I think that is all. There may be some more questions, but I will develop them in the morning.

The Court: The court will be at recess until tomorrow morning at ten o'clock.

(Thereupon the court stood at recess until January 16, 1941, at ten o'clock A. M.)

[fol. 2392]

January 16, 1941, ten o'clock A. M.

Proceedings were resumed at this time as follows:

The Court: You may proceed.

G. C. BAKER was recalled to the stand.

Mr. Mason: I may have some further testimony from Mr. Baker with regard to schedules, but it isn't ready yet to produce, Mr. Strouss, and I also intend to recall him to testify

on another topic entirely, not related to what he has so far testified to. Subject to that, if you wish to cross-examine him at this time on his schedule testimony, he is available for cross-examination.

Mr. Strouss: I just have one or two questions I might ask now to clarify one or two matters.

Cross-examination.

By Mr. Strouss:

Q. I notice yesterday in your testimony concerning the Imperial Valley Schedule that, if I understood you correctly, you said the pre-cooling time for Imperial Valley was up to two A. M.?

A. Yes.

[fol. 2393] Q. On your exhibit you show the basic schedule as beginning at ten A. M. in the morning?

A. Yes, sir.

Q. And the sixteen-hour run-off would be at four o'clock.

A. The six-hour run-off.

Q. I mean the six-hour run-off.

A. Yes.

Q. Then the pre-cooling extends beyond that to two A. M. of the next morning?

A. No, the two A. M. is allowed up to two A. M. after the day that the traffic is loaded. For example, traffic loaded on Monday in the Imperial Valley is allowed up until two A. M. Tuesday morning for pre-cooling, and that traffic is due out of Yuma on a basic schedule of ten A. M. Tuesday.

Q. Then the pre-cooling would come in ahead of the time that the basic schedule begins?

A. Oh, yes.

Q. Now, when you were talking about diversions, just what do you mean by that term? Let me just make clear my question: Does that necessarily mean that a car is cut out of a train that it is in?

A. No, a diversion—a shipper may, for example, bill a [fol. 2394] car to Chicago and he may find some better market advantage for that car at Fort Worth, and he will file diversion with the P. F. E. Company or one of our agents, and divert that car at Fort Worth, or he may have a diversion of the route, he may want it changed to a different route at El Paso; it may be originally billed Southern Pacific, Rock Island and St. Louis, and he will divert it at El Paso.

T. P., M. K. & T. or other routes, or there may be a diversion in the refrigeration.

Q. Now, you spoke yesterday about cars when they leave, say, Colton, and the waybill will be for El Paso?

A. Yes.

Q. The car has not been sold yet, but before it reaches El Paso that car is sold, say, to someone in Chicago. Now, that car, when it leaves Colton, is in a train of eastbound freight going to Chicago. All that would happen there would be that the way-bill would be changed to show the destination Chicago rather than, El Paso?

A. That is correct.

Q. But that would be a diversion under the term as you use it?

A. That is right.

[fol. 2395] Mr. Strouss: That is all the questions I have.

Mr. Mason: Now, may we withdraw Mr. Baker at this time and recall him later? We will call Mr. Herbert.

W. P. HERBERT was called as a witness in behalf of the defendant and being first duly sworn testified as follows:

Direct examination.

By Mr. Mason:

Q. Will you please state your name and official headquarters, Mr. Herbert?

A. W. P. Herbert; 65 Market Street, San Francisco, California.

Q. Are you employed by the Southern Pacific Company?

A. I am.

Q. In what capacity?

A. Assistant engineer, Bureau of Transportation Research, Southern Pacific Company.

Q. Is that the same Bureau of Transportation Research which was described by Mr. Sines in his testimony?

A. Yes, it is.

Q. Are you one of the regular staff of engineers in the Bureau of Transportation Research in the executive offices at the San Francisco?



A. Yes, I am.

Q. What has been your previous experience, Mr. Herbert? [fol. 2397] A. I started railroading in 1919 for a brief period in the El Paso yard as a yard clerk. That was just during the summer of 1919. My services with the Southern Pacific Company started in 1921 on the Tucson division with headquarters at Tucson, Arizona, in the engineering department. I successively served as rodman, instrument man, draftsman, general foreman of track maintenance, relief road master, and I was promoted to assistant engineer in 1927. In 1937 I entered the Bureau of Transportation Research at San Francisco.

Q. Your entire service except for the service in the yard at El Paso has been on the Tucson division?

A. Yes, it has.

Q. Up to 1937?

A. Up to 1937.

Q. And for the last three years or more with the Bureau of Transportation Research at San Francisco?

A. Yes.

Q. Are you a graduate of a technical institution?

A. I did not graduate. I attended the Texas School of Mines for three years after the World War. I entered that school through the Army.

[fol. 2398] Q. What was the character of your training at the School of Mines?

A. I majored in civil engineering.

Q. What is the scope of your duties at present as member of the engineering staff of the Bureau of Transportation Research?

A. We prepare cost studies and general transportation problems and other special studies that might be assigned. Many of these studies are required for court use or use before commissions and other regulatory bodies.

Q. Have you prepared such studies and testified to them in court or commission proceedings?

A. Yes, I have.

Q. Have you prepared certain exhibits in connection with the present case?

A. Yes, I have.

Q. I will ask you to refer, if you will, please, to a statement in one sheet entitled, "Average Cars per Freight Train versus Cost per One Thousand Gross Ton-Miles, Main and Branch Lines-Form 521, Freight Statistics, Tuc-

son and Salt Lake Divisions for the Years 1937, 1938, and 1939." Have you the sheet before you?

A. Yes, I have.

Mr. Mason: May the exhibit be marked for identification [fol. 2399]?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 177 for identification.

Mr. Mason:

Q. Did you prepare exhibit No. 177 for identification?

A. Yes, I did.

Q. Will you state from what sources it was prepared?

A. It was prepared from the Southern Pacific Company's form 521 and its predecessor, 522.

Q. This is for the years 1937, 1938, and 1939?

A. I beg your pardon, its predecessor would not be involved here.

Q. Is that the form 521 for those two divisions which has been referred to previously as having been furnished to Mr. Strauss?

A. Yes, sir.

Q. This statement appears to relate to the individual monthly statistics as compiled. Have you the file of the form 521 for each of the months represented by the exhibit?

A. Yes, I have.

Q. Does the form 521 contain charts of this character or are these charts of your own construction?

[fol. 2400] A. Form 521 does not contain charts; it contains the averages shown hereon and the charts are of my own construction.

Q. Have the figures shown hereon been taken from the form 521 or are they computations from figures taken from the form 521?

A. They have been taken from the form 521. There are computations here and those same computations appear on 521.

Q. Let us refer, for example, to the upper lefthand block. You show an average of cars per train and an average of cost per thousand gross ton-miles. Are those averages on the 521 or are they computed by you?

A. The average for the year?

Q. Yes.

A. That average is also shown on the annual figure for the 521. That would be the average for the twelve months.

Q. I take it that every figure here appears on the 521 under an appropriate heading?

A. That is right.

Q. Has the exhibit been checked against those underlying sources to determine its correctness?

A. It has.

Q. As to the construction of the exhibit as a chart, was [fol. 2401] that of your own doing?

A. Yes.

Q. Taking again the upper left-hand block as an example, will you explain just how the chart is constructed?

A. The cars per train are shown on the right-hand side of the block, starting at the bottom at fifty each square being representative of five cars. It runs sixty, seventy, eighty, ninety, up to one hundred cars. On the left-hand side the scale is shown per cost in cents per 1000 gross ton-miles, the weight of the locomotive and tender being excluded.

Q. Do those figures represent cost per thousand gross ton-miles?

A. Cost per thousand gross ton-miles in cents.

Q. You show at the bottom of the sheet a legend; I take it that the significance is that the solid line shows the trend of the cost figures by months, is that correct?

A. That is right.

Q. And the dashed line the trend of the train lengths expressed in average cars per train?

A. That is right.

Q. Are these averages inclusive or exclusive of caboose?

A. Including caboose.

[fol. 2402] Q. Do I understand that the dashed line relates entirely to the scale which appears at the right-hand side of the block of squares in each instance?

A. That is right.

Q. And that the solid line relates to the scale which appears at the left-hand side of the block of squares?

A. Yes.

Q. How do you determine how the line shall run?

A. The lines are determined by the plotting of each individual month on the graph as shown on the 521.

Q. That is to say, you find the points at which the cost figure, for example, would fall in each successive month on the scale?

A. Yes.

Q. And then draw a line to join those points?

A. Draw a line to join those points, yes.

Q. You show at the top of the upper lefthand scale, taking that as typical, and at the top of each of the others, figures in two columns reading from the left of the sheet, one bearing the style "Cars" and the other styled "Cost (Cents)";

A. Yes, sir.

Q. Do those figures relate to points on the chart itself?

[fol. 2403] A. Yes.

Q. Will you select one of those and point out what point on the chart it relates to?

A. Take the first point under "Cost" on the upper left-hand block which would be the first point on the solid line. It shows 58.8 in the column you just referred to and it is plotted on this chart just below "60" which represents on the scale and is plotted to 58.8.

Q. Does this portrayal by scale and line represent any condensation of any other graph or set of lines or is this entirely an original production of your own?

A. This is entirely an original production.

Q. This is not in any sense a condensed profile?

A. No, it is not, it is taken entirely from the 521.

Q. It is to be entirely distinguished from any profile?

A. Yes. I might add that each scale of each block is the same, making the relative position of the lines comparable in each instance.

Q. In the lower half you show the Salt Lake division. Is the same scale used in plotting the points for the Salt [fol. 2404.] Lake division as used for plotting the points for the Tucson division?

A. Yes, sir.

Mr. Mason: There are some further explanations I expect to undertake, Mr. Strouss, but I think they had better follow the introduction of the exhibit if it is received. Have you any questions before the exhibit is offered?

Mr. Strouss: No, I have no questions.

Mr. Mason:

Q. Will you say, Mr. Herbert, whether the exhibit is true and correct to the best of your knowledge and belief?

A. It is.

Mr. Mason: We offer the exhibit in evidence as defendant's exhibit No. 177.

Mr. Strouss: It is objected to as irrelevant and immaterial, particularly the part which refers to the Salt Lake division.

The Court: Objection overruled, it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 177.")

Mr. Mason:

Q. Mr. Herbert, I notice that you use three years. Are the years prior to 1937 available?

A. Yes, they are.

Q. Is the year 1940 available?

[fol. 2405] A. Well, it is right now; it was not available at the time I made this chart.

Q. Is there any reason for not having included years prior to 1937?

A. No, I concluded that three years were sufficient to show the picture.

Q. What is the purpose of the exhibit? To show absolute figures or to show trends?

A. Just to show trends, not absolute figures. Of course the absolute figures are there as reported in the 521.

Q. Do the figures pertain to main line operations on the divisions only or are they the result as well of branch line operations?

A. Main line and branch line operations as shown in the title.

Q. Does the exhibit include any costs or other results of passenger train operation or does it relate entirely to freight train operation.

A. Entirely to freight train operation.

Q. What items of cost are included in the cost figures shown here?

A. Fuel, enginemen wages, trainmen wages, locomotive supplies and expenses, engine house expenses, train supplies and expenses. Those are the direct train expenses.

[fol. 2406] Q. Does this include any cost for maintenance of way?

A. It does not.

Q. Does this include any cost for general or overhead?

A. No, just the direct train expenses.



The Court: Will you read the last answer of the witness as to what is included in the cost?

(The last answer was read by the reporter.)

The Witness: Instead of locomotive supplies and expenses it is "other locomotive supplies."

Mr. Mason: Are those the same items of cost for both the Tucson and the Salt Lake divisions?

A. Yes, they are.

Q. What precisely do you undertake to show here by reason of showing variations in train length and variations in unit cost per thousand gross ton-miles on the same chart?

A. I propose to illustrate and support our contention that the cost of operation per unit of performance varies inversely to the number of cars handled in train units and therefore justifies the conclusion that the lengthening of trains results in economy of operation.

Q. I notice that you use as the unit to which the cost is [fol. 2407] applied the gross ton-mile or thousand gross ton-miles, in this case, which I take it is the same thing, rather than the train-mile. As a company engaged in producing and selling transportation what does the company sell to the customer, train-miles or gross ton-miles?

A. They sell traffic expressed in gross ton-miles.

Q. Where does the train or train-mile come into the picture?

A. The train is the unit devised to convey traffic or to convey gross ton-miles.

Q. What is it that the company finally produces?

A. We produce the gross ton-mile or the car-miles.

Q. Is the car-mile similar to the gross ton-mile?

A. Yes, it is interrelated. We haul either light cars or heavy cars but the gross ton-mile is the most important unit in measuring cost.

Q. Is the gross ton-mile relatively constant and invariable as a measure of performance?

A. Yes, it is.

Q. What factors are there, if any, which produce a variation in the gross ton-mile, comparing one gross ton-mile [fol. 2408] as against another? If you transport a gross ton-mile over a grade of 2.2 per cent, over a mile having a grade of 2.2 ascending, and another over a mile having no grade at all, being completely level, would there be any variation as between those two gross ton-miles?

A. No, they would still be gross ton-miles.

Q. Would there be any variation in expense as between them? Would it cost more to produce the gross ton-mile on the ascending grade than to produce the gross ton-mile on the level?

A. I believe it would a little.

Q. Is there any other element which might produce a variation as between gross ton-miles?

A. I don't know just what you mean by "variation."

Q. Not all gross ton-miles are the same, are they?

A. No, the gross ton-mile is the gross tonnage that is hauled.

Q. Times the miles over which it is hauled?

A. Yes.

Q. And to the extent that those miles differ, one mile as against another mile, there would be a variation in gross ton-miles?

A. Yes, there would be a variation as to the distance.

[fol. 2409] Q. Would there be a variation as to the distance?

A. The distance would cause a variation in the gross ton-miles.

Q. It would cause more or less of them, yes, but isn't there a difference in the cost per gross ton-mile depending upon the character of the mile traversed, not the number of miles but the character of the miles traversed?

A. Yes, there would be a little difference.

Q. Is there a difference between train-miles, comparing one train mile against another train-mile?

A. There is a very slight difference, but as a rule train mile costs are about the same in one location as another.

[fol. 2410] Q. You mean the average train-mile cost?

A. The average train-mile cost.

Q. But I am speaking of actual train-miles, not the average. Let us get away from the average for a moment. Now, are there factors associated with trains, that will cause any variation in train-miles so as to render that unit in constant or is that always a constant unit? Well, perhaps my question isn't quite clear. Do trains vary in length?

A. Yes.

Q. From what to what?

A. Well, they will range from no cars to seventy cars in Arizona, and hundred cars or so in other states.

Q. May they even go as high as a hundred and fifty cars?

A. A hundred and fifty or a hundred and sixty cars.

Q. The movement of a train of 160 cars for one mile is a train-mile, is it?

A. Yes.

Q. And likewise the movement of an engine with caboose?

A. Yes.

Q. And the movement of a train consisting of an engine [fol. 2411] and caboose over a level or descending mile is still a train-mile, isn't it?

A. Yes.

Q. And the movement of a 160-car train up a two per cent grade, if it was moved, is still a train-mile?

A. Yes.

Q. Are there any variations, then, in train-miles which would render the train-mile an inconstant unit?

A. Yes, I see what you mean. The length of the train would be a factor.

Q. Are there variations of load as between trains of the same length?

A. Yes.

Q. Would that be a further factor inducing a variation?

A. Yes, sir.

Q. Do those variations of length and loading produce or enter into the picture where the gross ton-mile is considered?

A. No, they do not.

Q. How does the car-mile compare with the gross ton-mile as a measure of performance?

A. The car-mile is fairly constant.

Q. How does it compare with a train-mile as a measure [fol. 2412] of performance from the standpoint of variability?

A. It is more constant than a train-mile.

Q. Is the car-mile in any sense a measure of the output of the company?

A. Well, not as much so as the gross ton-mile. The car-mile is a measure of traffic or the density of traffic.

Q. I notice by referring to Exhibit 177, Mr. Herbert, that the cost on the Tueson division per thousand gross ton-miles appears to fluctuate within comparatively narrow limits, whereas, on the Salt Lake division the cost appears to fluctuate somewhat more widely. Can you ex-

plain by reference to the showing on the exhibit how that comes about?

A: Yes; that is due to a wider fluctuation, or a more violent fluctuation on the Salt Lake division in cars per train throughout the year, whereas, on the Tucson division, due to restrictions in the length of the train, the fluctuation in average cars per train is very mild.

Q. Have you an illustration of the fluctuation of cost upward or downward between wide limits on any one of these charts for the Salt Lake division?

[fol. 2413] A. Well, you can take any year, either 1937, 1938, or 1939; take the 1938, the month of August, on the Salt Lake division the average cars per train reached its peak at that month, and you will note that the cost expressed per unit of a thousand gross ton miles was at a low level. On the Tucson division, the same relation exists, but there is not the opportunity to make the economies on the Tucson division that there is on the Salt Lake division because of the restricted length of the trains.

Mr. Strouss: I move to strike that last statement as a conclusion.

Mr. Mason: I think that that is a proper inference to be drawn from the exhibit, and from the fact that the restriction does exist. The restriction certainly is not disputed.

The Court: The motion to strike will be denied.

Mr. Mason: Without undertaking to force cross-examination now, Mr. Strouss, are there any questions you would like to ask before we pass from No. 177?

Mr. Strouss: There is one question.

Q. When do costs begin to accrue against tonnage? For example, suppose that a carload of cattle is delivered [fol. 2414] to the Company for transportation, when do the costs begin to accrue on that; when the crew goes to pick that car up?

A. The train-mile as reflected here, you mean?

Q. Yes, this cost you are talking about here, cost per gross ton-mile.

A. When the car enters the train, these are costs for freight train operations expressed in the units of a thousand gross ton-miles, so when the car is in the train is when the costs begin to accrue.

Q. Your costs in picking up a car are not included in these costs?

A. Sir?

Q. The costs of picking up a car of freight are not included in these costs here?

A. No—well, I believe they would. Train expenses would be involved in the picking up of a car if it was at a way-point, but in the terminal it wouldn't.

Q. Take the situation in the Salt River Valley where you pick up citrus and melons and lettuce during the season when those products are being shipped, you have a crew there almost continually, don't you, going out toward Chandler and Mesa?

A. Yes, we have what we call roustabout service.

[fol. 2415] Q. Is that cost included?

A. In this exhibit?

Q. Yes, as part of your—

A. Yes, it is freight train cost, local as well as through trains.

Mr. Strouss: That is all.

Mr. Mason: Would the cost of placing the empty car for the loading of the stock, if performed by a freight train crew, be included here?

A. Yes.

Q. And the cost of switching the car into the train, if performed by the freight train crew, would be included?

A. Yes.

Q. And the fuel of the locomotive, while performing the switching operation at the way-side point?

A. Yes, sir.

Q. Will you now turn to a statement in one sheet entitled "Main and Branch Line Freight Train Comparisons, Tucson and Salt Lake Divisions, and Pacific Lines. Cars per Train, Gross Ton-Miles per Train-Mile, Cost per One Thousand Gross Ton-Miles," being in one sheet. Have you that before you?

A. Yes, I have.

[fol. 2416] Mr. Mason: May we have it marked 178, if your Honor please.

The Court: It may be marked.



The Clerk: Defendant's Exhibit No. 178 for identification.

Mr. Mason: From what source was Exhibit 178 prepared, Mr. Herbert?

A. From Form 521.

Q. Did you prepare it personally?

A. I did.

Q. Are these the annual 521's for the years indicated on the face of the exhibit?

A. Yes, these are the annual figures.

Q. Are the figures taken directly from the 521?

A. They are.

Q. And placed on the exhibit in the various columns and segregations as indicated?

A. Yes.

Q. The charts, I take it, are of your own construction?

A. Yes, they are.

Q. And were prepared, or, rather, drawn after locating the points in the same manner as you explained for No. 177?

A. That is right.

[fol. 2417] Q. Are there any computations on the exhibit?

A. All of the averages shown are computations but those computations do appear on Form 521.

Q. Are there any computations of your own on the exhibit as distinct from those which are necessary for the purposes of Form 521?

A. No, there are not.

Q. Now, you show at the left-hand side of each of these blocks a scale. Is that scale associated entirely with that particular block?

A. Yes, it is.

Q. Does the scale of the top block have anything to do with the scales on either of the other two?

A. No, it does not.

Q. There are three separate scales, are there?

A. Three separate scales on this exhibit.

Q. What do you undertake to indicate by the top graph?

A. The top graph shows average cars per train, including cabooses, Salt Lake division, Tucson division, and the Pacific Lines, for each of the years 1924 to 1939, inclusive.

Q. And the trend of the average train length?

A. It is intended to show the trend of the average length throughout these years.

[fol. 2418] Q. Now, the second or center chart.

A. The second chart or center block shows for the same territories, that is, the Salt Lake division, Tucson division, and Pacific Lines, the gross ton-miles per train-mile, excluding the weight of the locomotive and tender, and likewise shows a similar trend throughout those years, 1924 to 1939, inclusive. It is very closely related, of course, with the upper block.

Q. Now, the third chart undertakes to show what?

A. The third chart shows in cents the cost per thousand gross ton-miles, also excluding locomotive and tender.

Q. And what items are included in these costs?

A. The same items as I explained for the previous exhibit, No. 177.

Q. The so-called direct expenses of train operation?

A. Yes.

Q. Will you say whether or not the exhibit is true and correct in so far as it reflects the underlying figures on the forms 521?

A. To the best of my knowledge and belief, it is.

Q. Are the forms 521 for each of these years available [fol. 2419] here in the city or in the court room?

A. Yes. I might say here that prior to 1928 it was form 522, the predecessor of form 521. We also have those forms here in the court room.

Q. Does that carry the same information?

A. The same information, about the same information. It carries the same information, yes.

Q. I mean, in so far as this exhibit is concerned?

A. Yes.

Mr. Mason: Have you any questions on the exhibit, Mr. Strouss?

Mr. Strouss: The Tucson division, during all of this period, included here, did not include the same territory at all times?

A. No. In, I think it was, August, 1930, the Tucson division was extended from Tucson to Lordsburg.

Q. Of course, this begins after the acquisition of the E. P. and S. W. and the Arizona Eastern?

A. Yes; the year 1924 shown here was restated on form 522 in 1925, so it is comparable to 1925.

Q. Now, these figures include both main and branch?

A. Yes, they do.

[fol. 2420] Q. And, so far as the Salt Lake and Tucson divisions are concerned, they are the same figures as Mr. Masson referred to in his testimony yesterday or the day before?

A. I don't—— If he referred to main and branch, they are.

Mr. Mason: I think we will both agree there have been some variations in the relationship and the total of main and branch line mileages over both divisions during those years, the 1931 figures being those which Mr. Masson——

Mr. Strouss: (Interrupting) He gave me 1931 for main line operations.

Q. Since 1931, you haven't broken down your costs, you don't show them as to main and branch lines?

A. That is right. That is why they cannot be made that way and be consistent throughout the years.

Mr. Strouss: That is all.

Mr. Mason: I will offer the exhibit as No. 178.

The Court: Any objection, Mr. Strouss?

Mr. Strouss: Yes.

The Court: The objection is overruled. It may be admitted.

[fol. 2421] (The document referred to was received in evidence and marked "Defendant's Exhibit No. 178.")

The Court: The court will be at recess until one-thirty.

(Thereupon, the court stood at recess until one-thirty o'clock this day.)

[fol. 2422].

January 16, 1941, 1:30 o'clock P. M.

Proceedings were resumed at this time as follows:

The Court: You may proceed.

The witness, W. P. HERBERT, was recalled to the stand and testified further as follows:

Mr. Mason: Referring to Exhibit 177, Mr. Herbert, and having in mind as well the preceding exhibit, I think that you stated this morning in your direct examination, that

the gross ton-mile as a measure of performance is relatively invariable, and that the train-mile as a measure of performance is variable. Now, I will ask you whether cost per train-mile on a particular district is a flexible or inflexible cost?

A. Cost per train-mile is inflexible, relatively.

Q. Why is that?

A. Well, you get a train on the road, there are certain costs that are incurred that would go on whether the train is long or short. For instance, you have wages of trainmen, enginemen, locomotive repairs, train supplies and expenses. However, your fuel will vary a little with the long or short train.

[fol. 2423] Q. Does it vary in proportion to the length of the train?

A. No, it will not.

Q. A light locomotive will consume considerable fuel?

A. Yes.

Q. That locomotive attached to a train will of course consume additional fuel?

A. Additional fuel, yes.

Q. Then, is it possible to vary the cost per train-mile by varying the length of the train to any considerable degree, that is, to vary the cost to any considerable degree?

A. No, it doesn't vary the cost per train-mile to any considerable degree.

Q. How do you produce gross ton-miles, Mr. Herbert? How does the Company produce gross ton-miles?

A. Well, by adding—

Q. No, I mean, how are they produced in the first instance?

A. Well, they are the tons multiplied by the miles traveled.

Q. Are they produced by the operation of trains?

A. Yes, they are produced by the operation of trains.

[fol. 2424] Q. Do trains vary in productiveness of gross ton-miles?

A. Yes.

Q. What causes the variation?

A. Well, the long or short train, in the first instance, there will be heavy cars and light cars, the more tons you have in a car, and then the more cars, in turn, you have in a train, the more gross tons you will have in a train. Expressing it in gross ton-miles, a train running so many miles

will produce so many more gross ton-miles with heavy cars and more cars per train.

Q. If a train is shorter in length, relatively the gross tons will be less by the same token?

A. Yes.

Q. Is it possible to vary the cost per gross ton-mile and, in connection with this question, I recall to your mind the fact that this morning you testified that the gross ton-mile is itself a relatively invariable unit, but as to the cost per gross ton-mile, is it possible to vary that?

A. Yes.

Q. And how is that accomplished?

A. That is accomplished by adding more gross tons to your train or more gross tons per car and more cars per train, which is the same thing.

[fol. 2425] Q. With a fixed train-mile cost, how do you obtain a variable gross ton-mile cost?

A. By adding more gross tons to the train unit.

Q. Or, if you raise the gross ton-mile cost, how do you do that?

A. If you have less amount of gross tons per train unit.

Q. Now, to obtain a relatively low gross ton-mile cost, then what method do you pursue?

A. By having longer trains, expressed in cars.

Q. Where you have a fixed limit which you cannot exceed, Mr. Herbert, is it possible to obtain the same result in reducing gross ton-mile cost as where there are no such limits?

A. No, it is not possible.

[fol. 2426] Mr. Mason: Will you say whether your exhibits 177 and 178 just received indicate whether gross ton-mile costs do vary contemporaneously with variation in number of cars per train?

A. Yes, they do.

Q. Will you point to some examples of that?

A. The Salt Lake division cars per train as you will note in the upper graph shown on exhibit No. 178, the upper graph shown by the solid line, the cars per train have trended upward since 1924, whereas the costs per unit of thousand gross ton-miles as reflected by the solid line on the lower graph have trended downward over the same period.

Q. You spoke of longer trains as being a manner whereby each train-mile could be made more productive. Do you



have an illustration of the greater productive value of a train-mile expressed in gross ton-miles on exhibit No. 178?

A. Yes, that is shown by the middle graph. By the same token, taking the Salt Lake division for an example where such economies can be effected or such loadings can be effected due to the unrestricted territory with respect to cars per train, there you will see that the average gross tons per train have trended upward in about the same proportion that the cars per train have trended upward over the [fol. 2427] same period of time.

Q. I notice that the showing of average cars per train and gross ton-miles per train mile is less on the Pacific lines than on the Tucson division, year by year. What is the explanation of that fact?

A. That is due principally to the greater amount of local service in other divisions, that is, other than the Tucson and Salt Lake divisions, particularly the west coast divisions.

Q. Does branch line service enter into the picture at all?

A. Yes, branch line service has some effect.

Q. Is branch line and local service predominantly a short train operation?

A. Branch line is. Local service is usually a short train operation, a short run and a short train operation.

Q. Will you say whether the purpose of this exhibit is somewhat the same as exhibit No. 177?

A. Yes, it is, the only difference being that it shows it by years where the other exhibit, No. 177, shows the similar trends for each month of the year.

Q. This covers, as I see it, some sixteen years, does it not?

[fol. 2428] A. Yes, sir, 1924 to 1939, inclusive. There is one point I would like to bring out on this exhibit No. 178 and that is that the last three items in the gross tons per train-mile, the last four years, 1936, 1937, 1938, and 1939, I used an actual computation there rather than the figures shown in the 521 because in the 521, starting in 1936, the light train-miles were eliminated. In a graph of this kind I figured it was better to have the graph continuous one year as exactly related with the other, so therefore I made the actual computation.

Q. You added in the light train-miles before making the division?

A. Yes, Sir.

Q. Is the figure representing gross ton-miles per train-mile sometimes referred to as "gross tons per train"?

A. Yes, it is the same thing.

Mr. Mason: I propose now to go to another exhibit, Mr. Strouss, unless you have some questions on exhibit No. 178?

Mr. Strouss: I want to have the 522's before I examine on this.

Mr. Mason: They will be furnished.

Q. Have you before you, Mr. Herbert, an exhibit in four [fol. 2429] sheets bearing the title on the first sheet; "Comparisons between Tucson Division, Pacific Lines, and Salt Lake Division Showing Trends in Freight Train Lengths and Freight Train Loading, and Effect on Operating Costs"?

A. Yes, I have.

Mr. Mason: May we have the statement marked "Defendant's Exhibit No. 179" for identification?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 179 for identification.

Mr. Mason:

Q. Did you prepare exhibit No. 179?

A. Yes, I did.

Q. From what sources?

A. It was prepared also from the 521, the company's form 521, "Operating Statistics."

Q. Was form 522 used for earlier years?

A. Yes, 522 for years 1924 to 1927, inclusive.

Q. Is this exhibit a companion to one of the preceding exhibits?

A. It is a companion to exhibit No. 178.

Q. Will you explain what the first sheet of the exhibit is with relation to the other three?

A. Sheet 1 is a summary of the three back sheets. It shows the Tucson division Pacific lines, the Salt Lake [fol. 2430] division, percent increase in cars per train, percentage increase in gross ton-miles per train-mile, and percentage decrease in costs in cents per thousand gross ton-miles for each of those three districts divided into two groups, period groups. The first group, 1924-1925, com-

pared with 1928-1929; the second group being 1930-1931 compared with 1938-1939. Percentages shown are the total percentage change for the two groups.

Q. Are these calculations the results of which appear on sheet 1 shown in greater detail on the succeeding sheets?

A. Yes, sir.

Q. I will ask you if the figures in column B are figures taken from the 521 and 522 forms?

A. Yes, they are.

Q. And the same as to column C?

A. Yes.

Q. Column D?

A. Yes.

Q. And column E?

A. Yes.

Q. How do you obtain column F, is that a computation from the preceding figures or is that also on the 521?

A. That is a computation and also appears on the 521.

[fol. 2431] Q. Does it express a division?

A. Yes, it does.

Q. What two figures are divided?

A. Car-miles in column C divided by the train-miles in column B.

Q. That gives you what?

A. Average cars per train.

Q. In column F?

A. Yes.

Q. The gross ton-miles per train-mile, how do you get that?

A. Gross ton-miles per train-mile as shown in column G are a division obtained by dividing column D, gross ton-miles, excluding locomotive and tender, expressed in thousands, divided by the train-miles, column B.

Q. That gives you the result in column G?

A. That gives you the result in column G. I might add that that same computation follows down through the years to and including 1939.

Q. Are all the figures for each year where the several years are shown in the upper block of the exhibit obtained in the same fashion that you have described for 1924?

A. Yes.

[fol. 2432] Q. As to column H, is that also a division?

A. Yes, it is.

Q. Of what two columns?

A. It is a division of freight train cost as shown in column E divided by the gross ton-miles as shown in column D.

Q. And expressed in cents per thousand?

A. Expressed in cents per thousand gross ton-miles.

Q. And these expenses included in freight train costs, are they the same as the expenses you referred to in connection with exhibits Nos. 177 and 178?

A. Yes, they are.

Q. What have you done in the line designated as "Total 1924-1925"?

A. I am looking at the Tucson division, sheet No. 2, 1924-1925.

Q. Did you add those years together to get the result?

A. I added those two years together to get the result of those two years and the same averages are shown there for those two years as are shown for any individual year above, the same computation.

Q. As the averages obtained by computation?

A. Yes, the same type of computation.

[fol. 2433] Q. The same way for 1928-1929?

A. Yes.

Q. There is one figure that appears to be indistinct on my copy and it may have been rendered indistinct in reproduction. In line 2425, column F, it appears to be 54.6. Is that correct?

A. It is indistinct here but I am very sure that is correct. I will have it checked, however.

[fol. 2434] The Court: Mr. Herbert, let me get that straight. On those totals for 1924 and 1925, those are the actual totals for those two years, and not an average for the two years?

A. The totals are the actual totals, yes, sir.

Q. Not an average?

A. No.

Mr. Mason: But, of course, when we get into the column headed "Cars Per Train," or the column G, "Gross Ton-miles Per Train Mile," those are computed averages there?

A. Those are computed averages there. The last three columns on this sheet are computed averages where aver-

ages are shown, but the totals as shown for the two years 1924-1925 are actual totals.

The Court: I see.

Mr. Mason: Now, in getting the line headed "Per Cent Change Two Years, 1924-25," and so forth, did you make the computations there?

A. Yes.

Q. By subtracting the lesser figure from the greater, and dividing the difference by the greater figure?

A. That is right.

Q. The same process was followed in getting the totals [fol. 2435] and the percentage changes for the lower block 1930-31 and 1938-39?

A. That is right.

Q. Now, what is the derivation of the figures in the line stated as "Total Per Cent Change For the Two Periods Compared?"

A. That is the total decrease of the last period compared with the first two periods.

Q. Now, in column G, gross ton-miles per train-mile, there appears to have been an increase, at least the figure "D" is not used. How is that obtained?

A. Well, that is obtained because the 58.4 as shown for 1938-39 is higher than the figure 57.8 as expressed in cars per train for the period 1930-31.

Q. In other words, you subtracted the smaller percentage from the larger, and the balance was the decrease?

A. Yes, sir.

Q. And in the next column, column G, you subtracted the decrease from the increase and had a net increase; is that the idea?

A. Yes.

Q. Then, in column H there was a large decrease in one [fol. 2436] period, and a small increase in the other, so you obtained a net decrease, is that the idea?

A. Yes.

Q. Now, turning to sheet 3, Pacific Lines, are the computations and percentage changes computations made in the same manner?

A. They are.

Q. And does the same explanation also apply to sheet 4?

A. Yes.



Q. On sheet 3, I notice that the percent change in each of columns F, G, and H, for the first period compared, or the second period compared, is all in the same direction, that is, there seems to have been increases in cars per train and the gross ton-miles per train-mile, but a decrease in the unit cost. How did you obtain the figures for the total per cent change? Is that a straight addition?

A. That is a straight addition, yes, sir.

Q. Then these figures on sheet 2 are obtained by algebraic additions, are they?

A. Yes.

Q. Now, are these straight additions on sheet 4 in your percentage change figures?

A. Yes, they are again straight additions.

[fol. 2437] Q. Now, are these figures in columns F, G and H the same figures which are used in plotting the trend lines shown on exhibit No. 178?

A. Yes, where I show the actual figures for the individual years.

Q. Now, what figures have you brought forward from sheets 2, 3, and 4, to make the showing on sheet 1?

A. I brought forward from sheets 2, 3, and 4, the last three figures at the foot of the columns F, G, and H. In other words, for the Tucson division, you will notice the first item on sheet 1 is a decrease of 0.43, which appears at the foot of sheet 2, column F; the next figure is percentage increase in gross ton-miles per train-mile, Tucson division, 3.95 per cent, that appears at the foot of column G in sheet 2. The next figure is decrease of 15.93, a percentage decrease in cost per thousand gross ton-miles. That appears at the foot of column H on sheet 2.

Q. And the same would apply to columns B and C on sheet 1?

A. Yes.

Q. Now, I notice that you compare 1928-29 with 1924-25, and then compare 1938-39 with 1930-31. Why do you have [fol. 2438] that break, so to speak, in your comparison? I am referring now to sheets 2, 3 and 4.

A. Because the Tucson division changed its limits in 1930; therefore, I chose to compare a period before that change and compare a period subsequent to that change, averaging the two periods by taking two-year groups at the head and at the end of each of those two groups. 1931, in

521 statistics, has 1930 restated, so I was able to show 1930 as though it had had the same operating conditions prevailing as in '31.

Q. The same operating limits of the division?

A. Yes.

Q. Why was the same showing or the same break in comparison made in sheets 3 and 4?

A. Well, in order to have them all the same, to have them comparable, I chose to have them all figured on the same basis.

Q. Does your exhibit No. 179 show any direct or inverse relationship as between average train lengths or average train loading expressed in gross tons per train on the one hand, and costs per thousand gross ton-miles on the other?

A. Yes.

Q. What is that relationship?

A. Well, you will note that on the Salt Lake division, for [fol. 2439] instance, the percentage increase, increase per train is 30.61.

Mr. Mason: I guess I haven't offered the exhibit, so I am a little ahead of my time in asking that question. I will ask that you suspend your answer to the question. Has the exhibit been compared, Mr. Herbert?

A. For correctness?

Q. Yes.

A. Yes, it has.

Q. Have the computations been checked?

A. Yes, they have.

Q. Will you say whether or not the exhibit is true and correct to the best of your knowledge and belief?

A. Yes, I believe it to be.

Mr. Mason: Have you any questions, Mr. Strouss?

Mr. Strouss: No, I haven't.

Mr. Mason: I offer this exhibit in evidence as 179.

Mr. Strouss: I object to it as irrelevant and immaterial.

The Court: The objection will be overruled. It may be admitted.

Mr. Strouss: I do notice that on the second, third, and fourth pages you refer to main and branch. What appears [fol. 2440] on the first page, also is main line and branch?

A. Yes, that is right.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 179.")

Mr. Mason: Now, I think that my question, addressed to you just before I offered the exhibit, was a request to state the relationship, inverse or direct, as between the items I mentioned. Will you please answer that question?

A: You will notice that—I think the answer was "Yes," on that. I think I answered it before.

Q: You said you discovered a relationship, and I ask you to state what it is.

A: On the Salt Lake division, there is a percentage increase in cars per train of 30.61 per cent, and the percentage increase in gross ton-miles per train-mile is 35.42 per cent, whereas the percentage decrease in cost per thousand gross ton-miles as expressed in cents is 27.72 per cent; and looking again at the Tucson division, you will find that the percentage increase in cars per train instead of being an increase is a decrease of 0.43 per cent, with only a 3.95 increase in gross ton-miles per train.

The Court: But in spite of that fact, you were successful [fol. 244] on the Tucson division in decreasing your costs on a percentage basis 15.93?

A: Yes, that is right; and we were also able to increase our loading a slight amount, which is expressed by that 3.95 per cent.

Mr. Mason: The increase in gross ton-miles per train-miles as to the Tucson division, in the absence of the increase in train length, is accomplished in what way?

A: It is accomplished principally by loading the cars heavier.

The Court: There is a limit beyond which that can't go, I presume?

A: Well, yes. Certain cars are limited to certain weight restrictions and capacities?

Mr. Mason: I notice that your showing goes back to the year 1924. I will ask you to refer to the Salt Lake division showing on sheet 4; in that year the average cars per train on the Salt Lake division is 51.6?

A. Yes.

Q. Will you say whether or not the year 1924 was prior to the institution of long train operation on the Salt Lake division?

A. Yes, it started in about 1925, it had its full effect, started to have its effect in 1925.

[fol. 2442] Q. There were, as I think your exhibit shows, continuing increases in average cars per train after 1925 and for several years. What do those indicate?

A. On the Salt Lake division?

Q. Yes.

A. It indicates that the long train program is having its effect in the later years by hauling longer trains.

Mr. Mason: Have you any questions, Mr. Strauss, before we pass from Exhibit 179?

Mr. Strauss: No, not at present.

Mr. Mason: Have you before you a statement in one sheet consisting of a series of charts and bearing in the lower right-hand corner "Southern Pacific Company, Pacific Lines, Statistics of Main Line Operations, Tucson Division Compared with Salt Lake Division, and Pacific Lines, Years 1920-1939, Inclusive?"

A. Yes, I have.

Mr. Mason: May we have this statement marked Defendant's Exhibit No. 180?

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 180 for identification?

Mr. Mason: Did you prepare Exhibit No. 180 for identification, or cause it to be prepared?

A. Yes, I did.

Q. And from what sources?

A. From Form 521.

Q. Was the Form 522 used for prior years?

A. And the Form 522 as predecessor prior to 1928.

Q. Now, there are certain figures which appear in type writing in each of the three blocks of the exhibit opposite the names Tucson division, the Salt Lake division, and Pacific Lines. Are these figures actually taken from Forms 522 and 521?

A. Yes, they were.

Q. Then, how did you make the chart shown, for example, at the top of the sheet?

A. By plotting thereon for each year shown in accordance with the scale as shown on the left side of each block, the figures as shown on the top of the block representing Tucson and Salt Lake divisions, and Pacific Lines. The Salt Lake division is shown by a solid line on each of the three blocks; the Tucson division by a dash line, and the Pacific Lines by a dotted line.

Q. Are the lines drawn so as to join the plotted points?

A. Yes.

[Vol. 2444] Q. You determined the lines after you determined the points, is that it?

A. That is right.

Q. Do I understand that this exhibit relates entirely to main-line operations?

A. Main line only.

Q. What does the exhibit in miles per hour indicate? Is that the total time over the division or the time between particular points, or how is it figured?

A. It is the total time between terminals and does not include any time at terminals.

Q. Does it include time spent by freight trains at way stations between terminals?

A. Yes, it does.

The Court: In other words, it is elapsed time?

A. Yes, elapsed time on a freight train run from one terminal to another.

Mr. Mason: The cars per train are obtained, I think you have explained previously, by the division of car-miles by train miles; is that true here?

A. Yes, it is true here.

Q. How did you obtain the figure of car-miles per mile of road?

[Vol. 2445] A. That is the freight car-miles divided by the road-miles in freight service, and also derived from the Form 521.

Q. Do you take the total of car-miles for the year?

A. Yes.

Q. And divide by the average number of road-miles operated in freight service?



A. During that year; yes, sir.

Q. Have the figures on the exhibit been compared against the original sources?

A. Yes, they have.

Q. Are the forms 522 and 521 available for the use of opposing counsel?

A. Yes, they are.

Mr. Mason: Will you want those records, Mr. Strauss?

Mr. Strauss: I want your 522's.

Mr. Mason: For years 1920 and following?

Mr. Strauss: Up to 1929. I have copies of the 521's up to 1931.

Mr. Mason: Well, we will furnish those that you don't have.

Q. Will you state whether or not the exhibit is true and correct, Mr. Herbert?

A. Yes, I believe it to be.

[fol. 2446] Mr. Mason: Have you any questions, Mr. Strauss?

Mr. Strauss: No, I have no questions.

Mr. Mason: We offer the exhibit in evidence as Defendant's Exhibit No. 180.

Mr. Strauss: Objected to as irrelevant and immaterial.

The Court: The objection is overruled. It may be admitted.

(The document referred to was received in evidence and marked, "Defendant's Exhibit No. 180.")

[fol. 2447] Mr. Mason: Mr. Herbert, I notice the exhibit indicates that in 1938 and 1939 the average train speed of passenger trains on the Tucson division showed an upward tendency. Do you know of any particular factor which will account for that tendency?

A. In 1939 the Arizona overnight fast freight had some effect on the speed on the Tucson division.

Q. Between what points is that operated?

A. Between Yuma and Tucson via Phoenix.

Q. Is that operated at passenger train speed or approximately that speed?

A. Yes, it is.

Q. Is it classed as a freight train?

A. Yes.

Q. And appears in these statistics as such?

A. It is carried in the 521 as a freight train.

The Court: You mean that train is one train carrying perishables?

A. No, it carries L. C. L. less than carload freight; it is an overnight merchandise train from the west coast, Los Angeles, Yuma, Phoenix, and Tucson.

Q. Does it stop here?

A. This is the end of its run, it goes back from here. [fol. 2448] It runs on passenger train schedule.

Q. When you speak of it running on passenger train schedule, previous witnesses have testified I believe that the maximum speed obtained by a freight train was 40 miles per hour. That has no application to this train that you refer to?

A. No, this has a passenger locomotive and uses special cars which are equipped for higher speed.

Mr. Mason: Are those special cars assigned to this particular service?

A. They are assigned to this service.

Q. Used in no other service?

A. No other service.

The Court: Is that train still in operation?

A. Oh, yes.

Mr. Mason: You have been in the courtroom when Mr. Strauss has sometimes used the expression "hbt-shot"?

A. Yes.

Q. Is this one of those trains?

A. Very much so.

Q. What is the particular service that the Arizona overnight undertakes, is it in connection with truck delivery?

A. Yes, it is less than carload lot merchandise service, store to door pickup in the various cities in Arizona, especially put on for this state.

The Court: Is that train operated directly from here to Yuma or does it go through Phoenix?

A. It goes through Phoenix on account of the large amount of business in Phoenix.

Mr. Mason:

Q. Do you know and if so will you state what is the consist in cars of the Arizona overnight?

A. I couldn't say exactly, but I know it is very light compared with a freight train. It is more like a passenger train consist, seven or eight or ten cars; I believe. However, I am not certain as to that, it is all according to the business available.

Q. What actual speeds does this Arizona overnight make in the state of Arizona?

A. I believe it makes a maximum passenger train speed of sixty-five miles an hour.

Q. Does it operate in regular and daily service, Sundays perhaps excepted?

A. I believe Sundays are excepted.

Q. Is there any showing on exhibit No. 810 which would indicate whether the operation of longer trains or trains of increased lengths has any substantial effect upon average speed of freight trains, and, if so, what that effect is? [fol. 2450]

A. It has the effect of speeding up trains.

Q. Where do you find that indicated?

A. As shown on the upper graph, as the cars per train increased, particularly on the Salt Lake division where it is more pronounced, you will find a steady increase in speed over the years.

The Court: There was a general trend of increased speed on all three of these divisions?

A. Yes, that is true.

Mr. Mason: Did the increasing length of trains on the Salt Lake division according to the exhibit have any effect as preventing increasing train speed?

A. No, it would not prevent increasing the speed.

The Court: You wouldn't say that it was conducive to increased speed?

A. Yes, I believe it is. The average speed over the district would be enhanced by the long train operation.

Mr. Mason: Can you name any factors which would contribute to that result?

A. You would have fewer units on the road, fewer meets and passes, and naturally faster time between terminals, which this exhibit shows on the upper graph.

[fol. 2451] Q. When you speak of increased interference, you mean the meetings and passings of traffic traveling on the same line?

A. Yes.

Q. Does a meeting with another train involve stopping one or the other train?

A. It usually does; one train has to take the siding on a single-track line.

Q. Does the passing of a slower train by a faster train involve stopping of one train or the other?

A. It usually stops the freight train; the freight train necessarily takes the side track, causing delay and interference.

Q. Do those delays, due to a train stopping for a meet or pass enter into the calculation of speed in miles per hour?

A. Yes, sir, because those stops and passes are at way stations.

The Court: Is my recollection correct that on the Salt Lake division there is very little double tracking?

A. There is some paired track there that is operated as double track.

Q. That is the track that is used jointly by the Western Pacific?

[fol. 2452] A. Yes, sir.

Q. With that exception it is single track in the main?

A. In the main, yes. There are other stretches of double track, however, as shown on the map, exhibit No. 1.

Q. It would go without saying where you had a double track and didn't have to by-pass this oncoming traffic that you would be able to average more miles per hour speed of the train?

A. That would be true as to meets more or less but not passes. A passenger train would necessarily have to pass a slower freight train and the more units you have on the road there the more passes you will have.

Q. But it would eliminate the oncoming traffic?

A. Yes, it would.

Mr. Mason: I notice particularly in 1931 and following there is a considerable sag in the lines representing car miles per mile of road over a period of several years between 1930 and 1936. What is the explanation of that feature?

A. That is due to fewer cars on the road, principally due to the depression years.

Q. Does that apply alike to all three?

A. That applies alike to all three, the Tucson division, [fol. 2453] Salt Lake division, and Pacific lines.

The Court: In other words, that means less business during that period?

A: That is right.

Mr. Mason: Does the average train length have any effect upon the density of traffic as expressed in car-miles per mile of road and where do you find anything to show that on exhibit No. 180?

A: It is freight car-miles divided by the miles of road.

Q: Does that tend to vary, depending upon the average train length?

A: Yes, it would put the cars over the road faster.

The Court: To arrive at what is designated "car-miles" you divide the freight car-miles by the miles of road?

A: Freight car-miles divided by the miles of road.

Mr. Mason: Have you any questions on exhibit No. 180, Mr. Strauss, before we pass to the next exhibit?

Mr. Strauss: No.

Mr. Mason: Have you before you, Mr. Herbert, an exhibit in one sheet entitled, "Comparison between Short Train Operation on Tucsoson Division and Long Train Operation on Salt Lake Division, Showing Excess Train Miles Caused on Tucsoson Division by Short Train Operation, Main Line"?

A: Yes, I have.

Mr. Mason: May we have this exhibit marked No. 181 for identification?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 181 for identification.

Mr. Mason:

Q: Did you prepare exhibit No. 181 for identification?

A: Yes, I did.

Q: From what sources?

A: This is also from the form 521, "Operating Statistics," on the Tucsoson and Salt Lake divisions.

Q: Is form 522 used for this exhibit at all?

A: Yes, the form 522 is here used prior to 1928.

Q: Referring to line 1, the figure in column C, from where is that taken?

A: Taken from the 522.

Q: For the Tucsoson division.



A. For the Tucson division.

Q. Is the figure in column D for the Tucson division taken from the same source?

A. It is.

[fol. 2455] Q. These are for main line operations only.

A. Main line only.

Q. The figure in column E is the quotient of column C by column D, is it?

A. Yes, it is.

Q. Where do you get the figures in column F?

A. The figures in column F, as shown on the heading, "Salt Lake Division, Cars per Train," are obtained from the form 521, 522, and 521 for the Salt Lake division.

The Court: Those same figures are shown on these other exhibits to which you have been testifying?

A. Those that show main line only, that last exhibit would have them on it, exhibit No. 180.

Mr. Mason: Where do you get the figures in column G?

A. The figures in column G are computed by dividing column C by column E.

Q. What does the figure in column G represent?

A. It represents the train-miles on the Tucson division had we been able to obtain the same cars per train on the average that we had obtained on the Salt Lake division.

Q. For the year 1925?

A. For the year 1925, or the same applies to each of [fol. 2456] the other years.

Q. Does it represent the number of train-miles which would have been produced on the Tucson division if the cars had been distributed into average trains the same as on the Salt Lake division?

A. That is right.

Q. How do you obtain the figure in column H?

A. Column H is column D, which is the actual train-miles on the Tucson division, minus column G in computed train-miles.

Q. What does column H represent?

A. It represents the excess train-miles obtaining on the Tucson division due to short train operation from the years 1925 to 1939, inclusive. At the foot of the column is the summation of all the figures shown above.

Q. You also show a total for columns D and G; are they summations?

A. They, they are also summations.

Q. As indicated by the footnote, column H is what? The total in column H in line 16 is what year? How do you obtain it? Does it represent the difference between columns G and D?

A. Yes, column D minus column G.

Q. Has the exhibit to the extent that it reproduces the original sources mentioned been compared with those [fol. 2457] sources?

A. Yes, it has.

Q. Have the computations been checked?

A. Yes.

Q. Will you say whether or not in your opinion the exhibit is true and correct?

A. Yes.

Mr. Mason: Have you any questions, Mr. Strouss?

Mr. Strouss: No questions.

Mr. Mason: I take it that the purpose of the exhibit is as indicated by the title and by the title of column H particularly?

A. Yes.

Mr. Mason: Your Honor, we offer the exhibit in evidence as defendant's exhibit No. 181.

Mr. Strouss: I object to it as irrelevant and immaterial.

The Court: Objection overruled, it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 181.")

Mr. Mason: I don't know that it is quite clear in the record yet, Mr. Herbert, what is the primary basis of your exhibit No. 181?

A. Form 521 and its predecessor form, 522.

[fol. 2458] Q. Perhaps I should not have expressed myself that way. What is the primary theory upon which the exhibit is constructed?

A. It is based on the theory that the Tucson division, if it had not been for the restriction in train lengths, could at least obtain the same length of trains as obtaining on the Salt Lake division.

Q. You mean for main line operations?

A. For main line operation.

The Court: After all, though, it is merely a theoretical computation, is it not?

A. Yes, it is.

Mr. Mason: Of course, your Honor, we expect to develop later by other witnesses that it is feasible actually to operate as long trains on the Tucson division main line approximately as on the Salt Lake division, the law to the contrary notwithstanding. Do you wish to cross-examine now, Mr. Strouss? This is all we have at the moment for Mr. Herbert?

Mr. Strouss: No, I want to take the form 522 before I cross-examine Mr. Herbert.

Mr. Mason: You would like to have the witness withdrawn and recalled later for that purpose?

Mr. Strouss: Yes.

[fol. 2459] The Court: We will take our afternoon recess at this time.

(Thereupon a short recess was taken, after which proceedings were resumed as follows:)

B. S. SINES was recalled as a witness in behalf of the defendant and having been previously sworn testified further as follows:

Direct examination (Continued):

Mr. Mason: Mr. Sines, you have previously been sworn and testified in the present case?

A. Yes, sir.

Q. Have you before you an exhibit in one sheet entitled "Yuma, Arizona, to Lordsburg, New Mexico, Length of Freight and Passenger Trains Operated during the Six Month Period, January to June, 1942"?

A. I have.

Mr. Mason: May we have the statement just referred to marked for identification as defendant's exhibit No. 182?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 182 for identification. [fol. 2460] Mr. Mason: Did you prepare this exhibit or cause it to be prepared?

A. I caused it to be prepared and it was prepared under my direction and supervision.

Q. From what sources?

A. From the Tucson division train sheets for the six months, January to June, 1912.

Q. Did you actually take those six months' train sheets into your possession and abstract the figures on this exhibit therefrom?

A. I did.

Q. Has the exhibit been checked against these train sheets to determine its correctness?

A. It has.

Q. Are there any computations which appear on the exhibit?

A. Only the computations showing the totals and percentage of totals at the foot of each of the two blocks.

Q. As to the aggregation of the number of trains in the various classes, is that done by simply adding up individual trains as they were shown on the train sheets?

A. That is right.

Q. You speak of trains by classes, for example, 41 to 50. Does that represent the average length of the trains shown [fol. 2461] in column C or the maximum cars in the trains at any one time between terminals?

A. That represents the maximum number of cars in the train at any one time between terminals.

Q. Then a train, for example, in column C may have left the terminal with ten cars and picked up forty cars, hauled them for a few miles, and then dropped them and proceeded with ten cars and it would still be shown in this group, would it?

A. That is right.

Q. This one appearing under the description of passenger trains, 14 cars and over, was that taken directly from the train sheets?

A. That comes from the same train sheets, yes.

Q. Each of these trains is designated or titled similar to what is shown here?

A. That is right.

Q. Is the exhibit true and correct?

A. It is.

Mr. Mason: Have you any questions on the exhibit, Mr. Strouss?

Mr. Strouss: No, I have no questions.

Mr. Mason: What is the purpose of the exhibit, Mr. Sines?

A. The purpose of the exhibit is to show the small number and small percentage of trains that were operated in the six-month period, January to June, 1912, which exceeded 70 cars in length if they were freight trains and which exceeded 14 cars in length if they were passenger trains.

Mr. Mason: We offer the exhibit in evidence as exhibit No. 182.

Mr. Strouss: No objection.

The Court: It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 182.")

Mr. Mason: I would like to have you refer back, if you will, Mr. Sines, to Mr. Masson's exhibit No. 149 already in evidence and I call your attention to the year 1912.

A. I have it.

[fol. 2463] Q. I call your attention to the fact that this exhibit shows the average number of cars per train in Arizona for 1912 to be 48.39?

A. That is right.

Q. How does your exhibit contrast with that exhibit?

A. My exhibit indicates that the highest percentages of trains in the blocks which I have chosen, that is, in the ten-car blocks, falls in the two blocks 41 to 50, column C, and in the other block, 51 to 60, column D. The percentage of trains falling within the block 41 to 50 is 33.59, and in the block 41 to 60 is 31.48. There is therefore indicated a check between Mr. Masson's exhibit 149 and my exhibit 182.

Q. Your exhibit, as you said, is based upon the maximum number at any one time?

A. Yes.

Q. Would your exhibit necessarily show the average length except by approximation?

A. That is right, just by approximation.

Q. Was the 75-car train the longest train that you could find on any of the train sheets?

A. It was.

Q. And only one of those?



A. Only one between Tucson and Gila operated in a west-  
[fol. 2464] erly direction. It is indicated in column Q.

Q. Do you recall from the train sheet what its consist was?

A. No, I do not.

Q. Now, you show on the sheet also the number of trains classed as passenger trains exceeding fourteen cars in length. What is the total number, what is the total percentage of trains exceeding fourteen cars in length of all those classed as passenger trains?

A. There were fourteen trains exceeding fourteen cars in length, and the percentage of those fourteen trains to the total percentage of 3,118 is .44 of one per cent.

The Court: You said fourteen trains. Don't you mean sixteen?

A. Well, you will notice that the block at the foot of the page is entitled "Fourteen Cars and Over," whereas, Mr. Mason's question was as to those trains exceeding fourteen cars. To determine the figure that I used in my answer, you should go to the total commencing with column O and the line entitled "Grand Total" and adding the following figures—

The Court: I follow you now.

[fol. 2465] The Witness: (Continuing) My percentage of .44 of one per cent was determined in a similar manner.

Mr. Mason: You can add the percentage of excess, I take it, in columns O, P, Q, R and S, and get the .44 of one per cent?

A. Yes, sir.

Q. That figure of .44 per cent relates to what figure in the block relating to freight trains?

A. .38 of one per cent found in column F.

Q. What is the total percentage of trains of 61 cars or more operated in relation to the total freight trains?

A. 15.78, that figure being the total of the sum of 15.40 and .38.

Q. Now, Mr. Sines, I notice that of the trains classed as passenger trains of 15 cars or more, fourteen cars or more, of which sixteen are shown, there were eight bearing the designation "pay-trains." What were pay-trains?

A. Pay-trains were operated by the Southern Pacific Company in 1912 twice a month to pay the roadside em-

ployees outside of larger terminals. Pay-trains contained a pay-car. Along with that pay-car were a number of other official cars belonging to the officers of the division and [fol. 2466] sometimes store department cars, ordinary freight cars, and boxcars with company material in them which would be distributed along the railroad. These pay-trains were listed on the 1912 train sheets in the spaces ordinarily assigned to passenger trains. After making this exhibit, my attention was called to the fact that these pay-trains probably resembled work trains that are operated nowadays, and I shouldn't have counted them, but the exhibit as it is set up here, shows all of the trains that were operated for this six-month period.

The Court: In those days, did the company pay its employees by currency rather than by check?

A. I understand that it was currency and hard money.

Mr. Mason: Primarily in gold and silver rather than in currency, wasn't it?

A. Yes.

Q: Were these pay-trains operated in revenue service, carrying passengers?

A. No, there would be no revenue passengers on these pay-trains.

Mr. Mason: Have you any questions on the exhibit, Mr. Strauss?

[fol. 2467] Mr. Strauss: No, no questions.

The Witness: I would like to point out that, as indicated by the lower block of the exhibit, there were no regular passenger trains which exceeded fourteen cars in length. There was a special reason for the operation of every one of those extra-length passenger trains.

Mr. Mason: Will you refer now, Mr. Sines, to an exhibit entitled "Tucson Division, Yuma, Arizona, to El Paso, Texas, Locomotives in Service, January to June, 1912?"

A. Yes.

Mr. Mason: May we have this statement marked Exhibit 183 for identification?

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 183 for identification.

Mr. Mason: Did you prepare this exhibit or cause it to be prepared?

A. I assisted in its preparation and caused it to be prepared.

Q. From what sources was it prepared?

A. From the same 1912 train sheets of the Tucson division referred to in connection with the previous exhibit, No. 182.

Q. Are the train sheets to which you have referred [fol. 2468] available for the use of opposing counsel?

A. Yes, sir, they are in my possession here in Tucson.

Q. And they can be made available if counsel desires?

A. That is right.

Mr. Mason: If you will indicate, Mr. Strouss, whether you want them or not, we will bring them if you so ask.

Mr. Strouss: I don't know that I do now. I will see what other evidence goes in.

Mr. Mason: Does the exhibit or, rather, does the underlying source, the train sheets, indicate the use, whether regular or occasional, of the various types of locomotives indicated?

A. Yes, that is one of the essential items that is recorded on the train sheets at the beginning of each train's operations. The train dispatcher working the district covered by the train sheets heads up the trains with the conductor and engineer's name, the number of the train and the number of the locomotive. That practice has been invariable for at least the 28 years that I have had occasion to examine Southern Pacific Company train sheets.

[fol. 2469] Q. Can you determine from the locomotive numbers what types they are or were?

A. Yes, those numbers have been carried right down to the present day on the same locomotives; the numbers haven't changed on individual locomotives.

The Court: You don't mean to say that there were locomotives that were in use in 1912 that are still in use?

A. Oh, yes.

Mr. Mason: They are not in the same use, I take it.

A. No, not many of these locomotives see main line service nowadays, but that is not unknown either.

Q. Now, you show—first, I will ask you, has exhibit 183 been compared and checked to determine its correctness?

A. It has.

Q. You show in column D numbers. Do those numbers actually appear as the destination of these locomotives on the train sheet for the periods studied?

A. They do.

Mr. Mason: Have you any questions, Mr. Strouss?

Mr. Strouss: What do the figures indicate in Column F [fol. 2470] under head "passenger"?

A. They indicate the number of units that were operated, or that I found were operated during that six months period.

The Court: And column E.

Mr. Mason: The Court asked as to column E. Does that indicate the same thing?

A. The same thing.

Q. You say here "occasional"; what does that mean as applied to the first line?

A. There were two units of Mogul 4's operated. They usually appeared in passenger service, but we found them occasionally shunting freight trains, from which I concluded that the regular assignment was passenger service, but as occasional use, they could be used in freight service. The same practice prevails today.

Q. Does that same explanation apply to the word "occasional" in columns E and F otherwise?

A. That is right.

The Court: Well, Mr. Sines, coming to your total column down there though, do I understand that during the period January to June of 1912 there were 125 freight and passenger trains that operated over these lines shown here on the exhibit?

A. No, that is not right. During that time there were, [fol. 2471] referring to exhibit No. 182, there were 4,187 freight trains, and 3,118 passenger trains, but these trains were hauled with 125 locomotives, which are indicated on Exhibit 183.

The Court: Oh, I see.

Mr. Mason: As a matter of fact, Mr. Sines, do these locomotives generally receive repeated daily use?

A. That is right.

Q. Subject, of course, to such roundhousing or shop work as may be necessary from time to time?

A. Yes.

The Court: In other words, what this exhibit really shows, take line 8 there, for instance, in which you have 40 freight locomotives of the consolidation-9 type, wheel arrangement 2-8-0?

A. That is right.

Mr. Mason: Now, I will ask you to refer—Well, I will introduce the exhibit first. We offer the exhibit in evidence as Defendant's Exhibit No. 183.

Mr. Strauss: I have no objection.

The Court: It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 183 in evidence." [fol. 2472].)

Mr. Mason: I will ask now to refer to Exhibit No. 5.

A. All right.

Q. Do you find some or all of the types indicated on exhibit 183 shown on exhibit 5, and in that connection, will you also please refer to exhibit 6, which shows the passenger types?

A. On the two exhibits, 5 and 6, we find the Mogul locomotive; the Consolidation; on exhibit 6 we find the ten-wheel; on exhibit 5 we find Consolidation locomotives. We don't have the 12-wheel locomotives on exhibits 5 and 6.

The Court: In other words, what is designated on exhibit 6 as the Pacific passenger locomotive and on exhibit 5 as the Mikado freight locomotives were not then in use?

A. Yes, they were in use at that time elsewhere on the Southern Pacific, but not here in Arizona on the Tucson division. We don't find the Atlantic type on the exhibit No. 6, which is devoted principally to passenger locomotives, whereas, when I examined the 1912 train sheets I found that the Atlantic type was the principal passenger locomotive in use on the Tucson division. I therefore put the note at the foot of the exhibit to the effect that the [fol. 2473] Atlantic type 3 had and has—we still have a couple of them in service—a tractive effort of 24,680 pounds.



Mr. Mason: Where do you obtain that information of the tractive effort of the A-3 type?

A: That is from the Southern Pacific record of locomotives.

Q: Is that a small black book regularly kept?

A: Yes, it is.

Q: And circulated for the use and information of officers?

A: That is right.

Q: Have you a copy of it available here?

A: I don't have one in the court room, but we have several in the office.

Mr. Mason: (Addressing Mr. Strauss) Would you like to see it?

Mr. Strauss: No.

The Witness: I wanted to continue with the observation that the 24,680 pounds noted for the Atlantic type indicates that that engine is somewhat smaller than the ten-wheel locomotive shown on exhibit No. 6, whose tractive effort is shown as 25,260 pounds.

Mr. Mason: I will ask you now, Mr. Sines, to refer to an [fol. 2474] exhibit in one sheet entitled, "Full Crew Laws, States of Nevada and Arizona."

A: Yes.

Q: Have you that exhibit before you?

A: I have.

Q: Did you prepare this exhibit, or cause it to be prepared?

A: I did.

Mr. Mason: May this be marked No. 184 for identification?

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 184 for identification.

Mr. Mason: From what source did you take the information shown hereon?

A: From the revised codes of the two states, Nevada and Arizona, in the possession of the Southern Pacific Law Department.

Q: Have the texts of the statutes which purport to be shown here been checked against the original published volumes?

A. They have.

Q. Will you state whether or not the exhibit is true and correct?

A. It is.

Mr. Mason: Your Honor, I will state that the purpose of the exhibit, of course, is to show that the requirements [fol. 2475] of the states, of the two states as to the crews of freight trains are substantially the same, and thus to indicate to that extent a similarity between the two states, and to lay a further foundation for comparisons between the two states heretofore made and hereafter to be made. Have you any questions, Mr. Strouss?

Mr. Strouss: No.

Mr. Mason: We offer the exhibit in evidence as Defendant's Exhibit No. 184.

Mr. Strouss: No objection.

The Court: It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 184.")

The Court: Do I understand then, Mr. Mason, from this last exhibit that at the same general election at which the train-limit law was referred to the people and passed, that the Arizona full-crew law was also approved at that same election? It would appear so from this exhibit.

Mr. Mason: It would appear so from the exhibit and, while I never had that called to my attention before, I think that is unquestionably the fact. We might look at the Revised Code.

The Court: Never mind, I will look it up.

[fol. 2476] Mr. Mason: Have you before you, Mr. Sines, a statement in one sheet bearing the title "Southern Pacific Company, Summary of Freight Train Operations of Trains of Seventy Cars and Less, and Seventy-One Cars and Over in Specific Districts," and so forth?

A. I have.

Mr. Mason: May we have this statement marked Defendant's Exhibit No. 185?

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 185 for identification.

Mr. Mason: How was this exhibit prepared, Mr. Sines?

A. This exhibit was prepared at my request and under my direction by the office of the auditor of freight service accounts.

Q. Did you supervise its preparation?

A. I did.

Q. From what underlying sources was it prepared?

A. From the conductors' wheel reports.

Q. Was it prepared directly from the wheel reports?

A. It was.

Q. Does it purport to show the cars by classes, the trains [fol. 2477] by classes, according to the maximum number of cars in the train at any one time between the points shown?

A. That is right.

Q. Where do you obtain the mileage figures in column C?

A. From the mileage records of the Company, based on engineering records, and also mileage records in the auditor of freight service accounts' office.

Q. Now, will you explain how the figures in columns D and E were actually obtained from the wheel reports?

A. By the laborious process of counting the number of cars on each conductor's wheel report to determine the highest number handled at any one time between the points indicated.

Q. Who made the selection of the points between which the trains should be studied?

A. Those freight districts are districts which the auditor of—I just noticed I have stated several times that it is the office of the freight service accounts—it is the auditor of the equipment service accounts who did this job.

Q. Do they use these same terminal points or boundary lines for various purposes in accounting?

[fol. 2478] A. They do.

Q. Do they split their accounting at state lines?

A. Yes. The railroad is divided up in these districts and they make a series of reports on car-miles, train-miles, locomotive miles, gross ton-miles, and net ton-miles. The whole system of railroad accounts is built according to the districts indicated on this exhibit.

Q. Now, you show here, for example, from California-Oregon line to Klamath Falls, and then further down from Dunsmuir, California-Oregon line (Cascade); are those two separate parts of a continuous district between Dunsmuir and Klamath Falls?

A. Yes, they are.

Q. And some of the trains between Dunsmuir and the California-Oregon line continue on into Klamath Falls, or vice versa?

A. That is right.

The Court: But there is no duplication?

A. There is duplication, yes.

Mr. Mason: Where is that duplication?

A. Because these trains run very often in more than one district, but the accounting has to be performed in these [fol. 2479] districts in order that no trains will be missed.

The Court: In other words, the same train may be counted through each division through which it passes?

A. Yes, sir.

[fol. 2480] Q. Then where a state line cuts across a freight train district the same train may appear on one side of the state line and on the other side of the state line?

A. Yes, sir, the reason for our counting in that manner is to enable us to prepare each state's statistics, and carrying it to the ultimate conclusion we pay certain taxes based on operations on each side of the state line, taxes on the same freight train.

Q. Looking at lines 27 and 28, you show San Francisco to Watsonville Junction, line 28, San Francisco to Redwood. Would the trains which run from San Francisco to Redwood be included within the trains running from San Francisco to Watsonville Junction?

A. No, they would not. The San Francisco-Redwood territory, while it follows the same route is a separate series of trains which run up and down the Peninsula in local service, some of them crossing the San Francisco Bay on the Dumbarton Bridge and then coming around to Oakland. From San Francisco to Watsonville Junction, the through trains operate through San Jose. Note the next district, Watsonville Junction to San Luis Obispo.

Q. Is that a continuation of the San Francisco-Watsonville Junction district?

A. Yes, a slightly larger number of trains indicating generally that those trains are operating through from San Francisco to points south of Watsonville Junction.

Q. Your showing, I notice, relates to four months of the year 1939. Will you say why only four months are shown instead of the entire year?

A. I thought that the four months represented a typical cross-section of the year's operation, and it is customary to select these particular four months to make showings of this kind and relieve ourselves of the burden of performing a lot of unnecessary work.

Q. Is the work of checking the wheel reports for the purpose of this showing a considerable job?

A. Yes, the magnitude of the task of preparing this exhibit can be appreciated by adding the two figures together at the bottom of the sheet, 45,000 and 16,000, indicating there were over 61,000 conductors' wheel reports examined and the cars were individually counted on those wheel reports. Many of the wheel reports consist of four, five, and six sheets each.

Q. This was only for four months?

A. That is right.

[fol. 2482] Q. The job for a year would have been how much larger?

A. Three times larger.

Q. Who made the computations in column F and how are they made?

A. They were made by people under my supervision and were made by totaling the figures in columns D and E and dividing the figure in column E by the sum.

Q. So that column F represents the proportion of long trains, using that term to indicate trains of more than 70 cars?

A. Yes.

Q. Are these trains exclusive of caboose or inclusive of caboose?

A. These trains are exclusive of caboose, corresponding to the language of the Arizona law, which says "70 cars exclusive of caboose."

Q. You show here under item 37, Indio to California, Arizona line. Is that the operation between Indio and the bridge or does that include whatever mileage these trains may have operated after crossing the bridge and within the limits of Yuma?

A. It does; a part of that 122 miles is in the state of Arizona.



[fol. 2483] Q. And except for that and the showing in line 39 is the state of Arizona represented on this exhibit at all?

A. That is the only representation that Arizona has on this exhibit.

Mr. Mason: Have you any questions on the exhibit, Mr. Strauss?

Mr. Strauss: No questions.

Mr. Mason: We offer the exhibit as defendant's exhibit No. 185.

Mr. Strauss: I object to it as irrelevant and immaterial.

The Court: Objection overruled, it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 185.")

Mr. Mason: Mr. Sines, I call your attention to the fact that in Oregon the percentage of trains of 70 cars and less in some of the districts particularly between Eugene and Brooklyn and between Klamath Falls and California Oregon line and between Ashland and Eugene is somewhat greater than of the trains of 74 cars and over. Is there a local or gathering service in those territories?

A. That is right. In 1939 and for some years prior to 1939 we have not operated any through service over our [fol. 2484] Oregon line going through Ashland. The trains represented in the districts you have indicated are local trains wholly.

Q. Is that true between Eugene and Brooklyn?

A. No, that is not true between Eugene and Brooklyn. Our through service between California, Eugene and Portland, is over the Cascade line through Klamath Falls and Chemult.

Q. Does that through service also pass through Eugene and thence to Brooklyn?

A. Yes.

Q. What other service is rendered in the territory between Eugene and Brooklyn besides this through California Oregon service.

A. We run a very extensive local service in that part of Oregon, particularly in the lumber and logging business. Many of the trains indicated on this exhibit are made up almost entirely of logging cars.

Q. Are those predominantly long trains or predominantly short trains?

A. Those trains will very seldom approach 70 cars so they are predominantly short trains.

Q. You show in California in many districts a predominance of trains of 70 cars and less. Will you explain how that comes about?

[fol. 2485] A. There again the short trains that were run in California are more apt to be local hauler and gathering trains than through trains. We endeavor whenever possible on all of our main line operations in California to build the trains up to the full capability of the engines and this means in most instances that the trains will exceed 70 cars in length.

Mr. Mason: Have you any question before we leave the exhibit, Mr. Strouss?

Mr. Strouss: No questions.

Mr. Mason: Will you refer Mr. Sines, please, to a statement in one sheet entitled, "Summary of Freight Train Operations by Various Lengths between Sparks, Nevada, and Ogden, Utah"?

A. Yes.

Mr. Mason: May we have the statement marked "Defendant's Exhibit No. 186"?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 186 for identification.

Mr. Mason: Did you prepare defendant's exhibit No. 186 for identification or cause it to be prepared?

A. I did.

Q. From what sources?

[fol. 2486] A. From the conductors' wheel reports in the territories indicated.

Q. Does this cover main line territory entirely?

A. It does.

Q. Between Sparks and Ogden?

A. Right.

Q. Will you say whether or not the method of the preparation of the exhibit was substantially the same as exhibit No. 185?

A. Exactly the same.

Q. How was the segregation into groups as shown by columns A to I, inclusive, made?

A: By determining the highest number of cars handled at any one time by our trains and tallying the trains according to the number of cars indicated in those groups.

Q. Did you supervise the preparation of the exhibit?

A. I did.

Q. Have you checked it?

A. Yes.

Q. Will you say whether or not it is true and correct?

A. It is.

Q. I notice in column I you show a classification, 121 to 130?

[fol. 2487] A. Yes.

Q. Were there no trains in excess of 130 cars operated?

A. No, there were none in the four months that we have tabulated. The reason I answer that way is that trains of over 130 cars are not unknown in Nevada or in the territory covered by this exhibit.

Q. You have shown on the exhibit the four months, January, April, July, and October. Did you select those particular months?

A. Yes.

Q. For what reason?

A. Because it gives a typical cross-section of the year's operations. I might point out also that those four months embrace a winter month, a spring month, a summer month, and a fall month, and I have also assisted in making compilations and summaries for those particular four months in reports to the Interstate Commerce Commission. The JA-JO months, as we call them, are the months commonly used in making exhibits of this character.

The Court: Mr. Sines, the territory covered by this exhibit No. 186 is in what is known as the Salt Lake Division?

A. Yes, sir.

[fol. 2488] Q. But these subdivisions you have made into those three different units, are those freight divisions or why did you cut it up into these three subdivisions shown here?

A. The territories chosen on exhibit No. 186 are the same as the territories shown on exhibit No. 185. I refer you to line 42 of exhibit No. 185 where you will find a total number of trains operated by adding 467 and 1,225, or 1,692 trains. That is the total shown in the Sparks, Nevada Carlin,

Nevada, district on exhibit No. 186. Similarly, the trains between Carlin and the Nevada-Utah line total 1,268 on both exhibits.

Q. Are those freight divisions?

A. No, they are not. Sparks, Nevada, and Carlin, Nevada, embrace two freight train districts but as I explained in connection with exhibit No. 185 Sparks-Carlin district is a district which our auditor of equipment service accounts uses in compiling his statistics. I didn't necessarily have to follow that system of districts, but it was convenient to do so. Sparks-Carlin freight district was originally established by the auditor of equipment service accounts because it embraced those two freight districts and was a territory which they simply found convenient to set up.

[fol. 2489] Q. Then the real answer to the Court's question is that it is set up in this manner because that is the manner in which the company keeps the records.

A. Yes, sir.

Mr. Mason: You show Carlin to the Nevada-Utah line, the split at the state line is for accounting purposes as between the two states?

A. That is right.

Q. And for the purpose of rendering reports to the two states?

A. That is right.

Q. Carlin to the Nevada-Utah line embraces what freight train district?

A. The freight train district from Carlin to Montello embraces the district Carlin to Nevada-Utah line.

Q. Carlin to Nevada line includes other mileage besides the Carlin-Montello district?

A. Isn't my recollection correct that the state line is west of Montello?

Q. Your recollection is wrong, the state line is east of Montello as I think Exhibit No. 1 shows.

A. That is right, I have confused Lucin with Montello. The Carlin to Nevada-Utah line does embrace the Carlin-Montello freight district.

[fol. 2490] Q. And some mileage between Montello and the Nevada-Utah line?

A. Yes, sir.

Q. And the balance of the mileage in the Montello-Ogden district is between the Nevada-Utah line and Ogden?

A. Yes.

Q. Does this include all of the main line mileage between Sparks on the west and Ogden on the east, all of the principal main line of the Salt Lake division?

A. Yes.

Q. Have those computations been checked to determine their correctness?

A. They have.

Q. Will you say whether or not that exhibit is true and correct?

A. It is.

Mr. Mason: We offer the exhibit subject to questions by opposing counsel as defendant's exhibit No. 186.

Mr. Strouss: I object to it as irrelevant and immaterial.

The Court: Objection overruled, it may be admitted.

(The document referred to was received in evidence and [fol. 2491] marked "Defendant's Exhibit No. 186.")

Mr. Mason: Does your exhibit show in any one calculation the total number of trains of 71 cars or more and the total number of trains of 70 cars and less operated in the territory covered and during the months referred to?

A. No, it does not. It is necessary to add up three figures shown in the recapitulation to answer your question.

Q. You would have to add up the total trains of each class?

A. Yes.

Q. And the total trains and then make the calculation?

A. That is right.

Q. Could it be done from the face of the exhibit without difficulty?

A. Yes.

Q. Have you a statement in one sheet entitled, "Maximum Number of Cars Handled in Various Main Line Passenger Trains, January, April, July, and October, 1939"?

A. Yes.

Mr. Mason: May we have this statement marked as "Defendant's Exhibit No. 187" for identification?

[fol. 2492]. The Court: It may be marked.

The Clerk: Defendant's exhibit No. 187 for identification.

Mr. Mason:

Q. Was this exhibit prepared under your supervision?

A. It was.



Q. In what manner?

A. By examination of the passenger conductors' wheel reports and tabulating the maximum number of cars handled at any one time in the blocks indicated.

Q. Are the passenger conductors' wheel reports the source of the information shown?

A. They are.

Q. Who made the selection of the period studied?

A. I did.

Q. For what reasons?

A. For the same reasons previously indicated in connection with the prior exhibits.

Q. What is the basis of the car count or classification of the lengths of trains? Does this indicate the average length or maximum length at any one time?

A. Maximum length at any one time. I may say with respect to our main line through passenger trains that in [fol. 249] many cases the maximum number is also the number for the entire trip of the train. Some trains don't make any set-outs or pick-ups enroute.

Q. You mean at points on our line?

A. Yes.

Q. Are some of these trains operated through in connection with other railroads?

A. Yes.

Q. Which ones particularly of those shown on this exhibit?

A. Trains on the Ogden route; the Ogden route is the only east and west route on this exhibit.

Q. You do not show here the operation over the route from Los Angeles east. Is that to be shown elsewhere?

A. That is handled on the next exhibit.

Q. Has the exhibit been checked against the underlying sources?

A. It has.

Q. Will you say whether or not it is true and correct as reflecting those sources?

A. It is.

Q. There are certain computations, percentages, shown here. Did you make those computations or cause them to be made under your supervision?

[fol. 249] A. They were made under my supervision.

Q. How were they made? What figures were used in making them?

A. The figures in each of the columns were added to give totals. The totals were then cross-footed with the totals in column Q and percentages were figured, using the total in column Q as one hundred per cent. The percentages indicated in the middle of the sheet and between the blocks are arrived at by adding the number of trains in the percentages over 14 and under 15.

Q. You show between columns M and N a somewhat heavier line. Is that of any particular significance?

A. Merely to call attention to the fact that that is where the Arizona Train Limit Law applies.

Q. That marks the boundary line between 14 and 15 cars, does it?

A. That is all.

Mr. Mason: Have you any questions, Mr. Strouss?

Mr. Strouss: No questions.

Mr. Mason: We offer the exhibit in evidence as defendant's exhibit No. 187.

Mr. Strouss: I object to it as irrelevant and immaterial. [fol. 2495] The Court: Objection overruled, it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 187.")

Mr. Mason: Will you refer, please, to an exhibit in one sheet entitled, "Number of Passenger Trains of Different Lengths between Los Angeles, California, and El Paso, Texas, Year 1939"?

A. Yes.

Mr. Mason: May we have this statement marked as "Defendant's Exhibit No. 188" for identification?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 188 for identification.

Mr. Mason:

Q. Did you cause this exhibit to be prepared, Mr. Sines?

A. I did.

Q. From what sources?

A. From the passenger conductors' wheel reports for the trains indicated.

Q. Was the exhibit prepared under your supervision?

A. It was.

Q. I note that you show an entire year here, why is that?  
[Pl. 2496] A. This covers the southern route which embraces Arizona and we made the showing complete for one year.

Q. Will you say whether or not this exhibit was prepared in similar fashion to exhibit No. 187?

A. Exactly the same.

Q. And is the showing a maximum number of cars at any one time between the points referred to?

A. That is right.

Q. Does this include special trains or extra sections of regular trains or only regular trains themselves?

A. Only the regular trains; that same observation applies to exhibit No. 187.

Q. There are no special trains shown there?

A. No.

Q. Although such special trains may have been operated as extra sections of regular trains?

A. And undoubtedly were in many instances.

[Pl. 2497] Q. If a train, for example, of the character referred to by Mr. Baker, operated especially for the transportation of government troops had moved during the year 1920, would such a train have been shown on this exhibit?

A. No.

Q. Did you make, or check the computations which appear in the total and percentage columns in the recapitulations?

A. I had them made and checked them.

Q. Will you say whether the exhibit is true and correct?

A. Yes.

Q. I notice that some of the eastward trains, all of the eastward trains, 2, 4, 6 and 44, between Yuma and El Paso, are shown as operating 364 rather than 365 times during the year. What is the explanation of that?

A. We had some washouts on the Southern route that caused us to suspend operations. For one day trains were annulled, and we didn't run any passenger trains. Apparently the westbound trains managed to get through, maybe they got through before the railroad was washed out.

Q. At any rate they were not annulled?

A. Not the westbound.

[Pl. 2498] Mr. Mason: Have you any questions, Mr. Strauss?

Mr. Strouss: No.

Mr. Mason: We offer the exhibit as Exhibit 188.

Mr. Strouss: No objections.

The Court: It may be admitted.

(The document referred to was received in evidence and marked: "Defendant's Exhibit 188.")

Mr. Mason: Have you—

The Court: Pardon me a minute. Mr. Sines, the pleadings indicate, at least, that it is the contention of the defendant that the Arizona law has an extra-territorial effect. Does this exhibit 188 reflect that condition in any way?

A. Only by inference and in this manner: Train 2, the Sunset Limited eastbound, operated 29 times with consists of over 14 cars between Los Angeles and Yuma. It operated no times between Yuma and Lordsburg with consists of over fourteen cars, and it then operated three times between Lordsburg and El Paso with consists of over fourteen cars. Something happened to that train to make it run with fourteen cars and less in Arizona, and with over fourteen cars immediately outside the state.

Mr. Mason: Now, I think his Honor's question was asked [fol. 2499] as to extra-territorial effect.

A. As to conditions between State Line and Lordsburg, at least, there is an extra-territorial effect where that train didn't exceed fourteen cars.

Q. Is there any way that No. 2 running between Yuma and Lordsburg could have been built up to more than fourteen cars at the Arizona-New Mexico boundary?

A. Not conveniently.

Q. Is there any terminal at the Arizona-New Mexico boundary which is passed by No. 2 on its eastward course?

A. No.

Q. Carrying out the possibilities of extra-territorial effect, Mr. Sines, how many times out of a total of 365, was No. 1, the Sunset Limited, operated from El Paso to Lordsburg with an excess of fourteen cars?

A. Six times.

Q. Out of 365?

A. Yes.

The Court: It won't be necessary to go into all those figures. I think the exhibit speaks for itself.

Mr. Mason: Will you take up, then, the statement Mr. [fol. 2500] Sines, entitled "Cars Received and Forwarded at El Paso, Texas, Years 1930 to 1939, Inclusive, and at Ogden, Utah, Year, 1939."

A. Yes, sir.

Mr. Mason: May we have this statement marked Defendant's Exhibit No. 189 for identification?

The Court: It may be marked.

The Clerk: Defendant's No. 189 for identification.

Mr. Mason: Did you prepare this exhibit or cause it to be prepared, Mr. Sines?

A. I caused it to be prepared.

Q. From what sources?

A. The figures opposite the word "Refrigerators" are taken from the records of the Pacific Fruit Express Company, their car accountant; the other figures are taken from the Southern Pacific Company interchange records covering El Paso and Ogden.

Q. Now, those cars that are received at El Paso eastward, are those cars which have passed through the State of Arizona?

A. That is right.

Q. Do those figures represent cars which have moved into El Paso from the west over the lines which extend through Arizona and New Mexico?

[fol. 2501]. A. Yes.

Q. Would that include any cars originating at Lordsburg or at Deming or at branch line points served out of Lordsburg or Deming?

A. It would.

Q. Or any cars originating at points on the south line between Rodeo and El Paso?

A. Yes, sir.

Q. Is there any substantial volume of such traffic?

A. No, that is very sparsely settled territory.

Q. Now, as to cars forwarded at El Paso westward, does that include cars moving from El Paso into or across Arizona?

A. It does.

Q. Would it also include cars destined to Deming and Lordsburg?

A. Yes.



Q. And points on the south line east of Rodeo?

A. Yes.

Q. Is there any substantial volume of that traffic?

A. No.

Q. Why do you show the cars received at Ogden and forwarded at Ogden?

A. Because that is a point comparable to the Nevada [fol. 2502] territory, that is a point which stands to the Nevada territory in the same relation as El Paso stands to the Arizona territory; it is the gateway to Nevada just as El Paso is the gateway to Arizona.

Q. So far as the Southern Pacific Company lines are concerned?

A. Yes.

Q. Why do you show the distribution here as between loads and empties, and between refrigerator cars and other cars?

A. Well, those were the principal classifications of interest in examining, in making an analysis of traffic moving in any territory.

Q. What class of loading moves in the refrigerator cars in eastward movement?

A. The perishable commodities originating in California and in Arizona and moving largely in, well, if it is an eastbound load, it moves entirely in Pacific Fruit Express Company cars. If it originated on Southern Pacific lines.

The Court: Well, according to this exhibit, Mr. Sines, your eastward movement through El Paso, you have twice as many refrigerator cars as all other types of freight cars put together?

A. That is right.

The Court: I was astounded at the number of empties [fol. 2503] going east. How do you account for that?

A. Well, I am going to answer your question indirectly, if I may. The business of these east and west transcontinental lines is largely devoted to hauling perishable eastward and manufactured products westward. Certain manufactured products—too large a proportion, we think—do not lend themselves to loading in empty refrigerator cars, so that the refrigerator cars have to return west empty. By the same token, you cannot load perishable business in the ordinary boxcar which is used to haul the

manufactured products west; therefore, we have an unbalanced movement of empty boxcars east.

The Court: You do have the right, though, under your agreements with connecting carriers, any car that might belong to any of these eastern roads that came loaded west, by the same token you could load it east if you had the cargo to put in it?

A. Not only could we but we are obligated by our agreements with the A. A. R. and with other railroads to do that very thing. This simply means that we didn't have enough dead loads, as distinguished from perishable loads, to put in those cars.

[fol. 2504] The Court: Well, you did have a huge traffic in empties both east and west?

A. Yes.

The Court: And that is, of course, non-revenue producing?

A. That is right.

Mr. Mason: Do I understand, then, Mr. Sines, that the empties east are largely boxcars made empty in western destination territories for which there is no appropriate eastbound load?

A. Yes.

Q. And the empties west are largely refrigerator cars which are required in the western origin territory and cannot be used within the time limits or because of the nature of the loading for the western movement?

A. That is right.

The Court: But do I understand that there are types of freight that you are permitted to haul westward in your refrigerator cars?

A. Yes, sir. Now, just a little bit further in that line: A large part of our business eastward which does not consist of perishable business consists of lumber loading from Oregon and Northern California. That requires a very fine type of car, a weather-tight car, and the Southern [fol. 2505] Pacific Company has to furnish those cars largely itself, because after we get these cars out here on the Coast that have handled these manufactured products westward, we cannot load lumber in them, they are not

suitable for lumber loading. That is again the reason why we find 44,076 empty cars going back east. We might put lumber in those cars if they were capable of—

Mr. Mason: 44,076, you said?

A. That is wrong; that is 28,370.

Mr. Mason: Have you any questions on the exhibit, Mr. Strouss?

Mr. Strouss: No.

Mr. Mason: I offer it in evidence as No. 189.

Mr. Strouss: I object to it as irrelevant and immaterial.

The Court: The objection is overruled. It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 189.")

Mr. Mason: Have you a statement in one sheet entitled "Loaded and Empty P. F. E. and Other Car Miles, States of Nevada and Arizona, Main and Branch, Freight and Mixed," Mr. Sines?

A. I have.

Mr. Mason: May we have this statement marked No. [fol. 2706] 190 for identification?

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 190 for identification.

Mr. Mason: Was this exhibit prepared by you or under your direction, Mr. Sines?

A. This was prepared under my supervision.

Q. From what source?

A. Again the records with respect to Pacific Fruit Express Company cars come from the car accountant of the Pacific Fruit Express Company, and the other figures come from our auditor of equipment service accounts' office.

Q. Are those records of accounts, which are regularly kept for taxation and reporting purposes to the state commissions of the two states?

A. They are, that is one of the purposes.

Q. Has the exhibit been checked against the original records in these accounting offices for the purpose of determining its correctness?

A. It has.

Q. I notice certain computations in column 8. Are those made from figures on the face of the exhibit?

A. They are.

Q. Will you indicate with reference to line 1929 how [fol. 2507] you obtain the figure for that year in column 8; for example, for the state of Nevada?

A. Divide the

The Court: I don't think you need to go into that, Mr. Mason. The Court follows it. It is a mere mathematical computation.

The Witness: That is right.

Mr. Mason: It is a mere division of a certain figure in order to get the P. F. E. percentage?

A. That is right.

Q. Is the exhibit true and correct to the best of your knowledge and belief, Mr. Sines?

A. It is.

Mr. Mason: Have you any questions, Mr. Strouss?

Mr. Strouss: No questions.

Mr. Mason: We offer the exhibit in evidence as Defendant's Exhibit No. 190.

Mr. Strouss: We object to it as irrelevant and immaterial.

The Court: The objection is overruled. It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit 190.")

Mr. Mason: Mr. Sines, I notice that Exhibit 190 indicates that the percentage of P. F. E. cars in the year 1929 [fol. 2508] was 42.7 of the total moving in Nevada, and 46.4 of the total moving in Arizona. I should say the percentage of car miles made by P. F. E. cars as stated in these percentage columns, whereas in the year 1932 the percentage of car miles made by P. F. E. cars was 58.0 in Nevada and 64.2 in Arizona, and there appeared to be other fluctuations up and down for various years. Can you explain those fluctuations?

A. Yes. During the depression years, the perishable business between California and Arizona and eastern territories held up better than the general average of railroad business, which resulted in a greater percentage of

P. F. E. cars and car-miles than existed prior and has existed subsequent to the severe depression years.

Q: Do the trends of the percentage of P. F. E. cars to the total cars handled as expressed in car-miles made in the two states follow along the same line in both states for the various years?

A. They are closely parallel.

Q. Have you before you, Mr. Sines, a statement in one sheet entitled "Average Number of Freight Trains Per Day Per Mile of Road for Selected Months of Years 1928 to 1939, Inclusive?"

A. I have.

Mr. Mason: May we have this statement marked Defendant's Exhibit 191 for identification.

The Court: It may be marked.

The Clerk: Defendant's Exhibit 191 for identification.

Mr. Mason: Did you prepare this exhibit or cause it to be prepared?

A. I caused this exhibit to be prepared.

Q. Was it prepared under your direction?

A. It was.

Q. Will you state the source?

A. The source of these figures is the Southern Pacific forms S-1232, entitled "Efficiency of Freight Locomotive Loading."

Q. Have you the forms S-1232 for the years 1928 and following which are shown on this exhibit?

A. Yes, we have them here in Tucson, and they can be made available if desired.

Mr. Mason: Mr. Strouss, will you state whether or not we haven't furnished you with forms S-1232 for some of the years shown here?

Mr. Strouss: That is what I was going to ask. I think I have them for the last ten years.

The Witness: We gave you the annual statements for the entire railroad for the years 1930 to 1939.

Mr. Mason: But these are two months of each of these [fol. 2510] years, are they?

A. Yes, these are monthly statistics.

Q. They would be considerably more voluminous than what you gave Mr. Strouss?

A. That is right.



Q. Again, these are by two freight districts, which as indicated here, are particular main lines of two divisions?

A. That is right.

Mr. Strouss: I have them by months too, haven't I?

A. I don't think so; you might have.

Mr. Mason: You say this is computed from these underlying sources, Mr. Sines?

A. Yes.

Q. Now, you have shown only back to the year 1929. Were prior years available?

A. No.

Q. Form S-1232 is not compiled?

A. No.

Q. Why do you show February and October for the Sparks-Ogden territory?

A. February is the month of lightest traffic, and the month of October is the month of heaviest traffic in the Sparks-Ogden territory.

Q. You show the months of August and June for the [fol. 251] Yuma-Lordsburg district; why is that?

A. They are the similar months for the Yuma-Lordsburg territory.

Q. Which is the light, and which is the heavy month?

A. August is the light month, and June is the heavy month.

Q. Precisely what line or lines between Yuma and Lordsburg are covered by this showing?

A. The main line via Gila and Bowie.

Q. This doesn't include the alternate line via Phoenix?

A. No.

Q. Or any part of the line between Mescal and Douglas, and so on, to El Paso?

A. No.

Q. Did you make the computations for the last five years shown in the block at the foot of the exhibit?

A. I did.

Q. From the face of the exhibit itself?

A. No, that has to be made from the basic figures in order to avoid making an average of averages.

Q. Has the exhibit been checked?

A. It has.

[fol. 2512] Q. Is it true and correct?

A. It is.

Mr. Mason: Have you any questions, Mr. Strouss?

Mr. Strouss: No questions.

Mr. Mason: Mr. Sines, why did you select the Yuma-Lordsburg line, the Yuma-Gila-Bowie-Lordsburg line, as you have defined it, for the purposes of this comparison on this exhibit?

A. That is the principal freight route across Arizona.

Q. And is the Sparks-Ogden route the principal freight route across Nevada and Utah?

A. It is.

The Court: Did I understand you to say that any trains that were sent from Yuma via Phoenix would not be included in this?

A. No, they are not.

Mr. Strouss: Just one question. When you say "per mile of road," just what do you mean by that?

The Court: I want to find that out, too.

A. A mile of road is just a unit of distance on the route, and the figure indicated on this exhibit was determined by adding the total train-miles in the district, and then dividing by the distance from one terminal to the other, [fol. 2513] which gives an average figure of average trains per mile of road.

[fol. 2514] Mr. Mason: To get that for a month, for example, February, 1929, would you then divide by 28?

A. Yes.

Q. So that to get the figure for February, 1929, you take first the total train-miles eastward between Sparks and Ogden?

A. That is right.

Q. And divide by the number of road-miles?

A. That is right.

Q. And divide again by 28?

A. That is right.

Q. Why did you divide by 28?

A. In order to reduce the trains per month to the trains per day.

Q. And in October you divide by 31?

A. That is right.

Q. Of course to get the westward movement you would perform the same operation on the westward train-miles?

A. That is right.

Q. Taking the territory between Yuma and Lordsburg, if a train is operated from Yuma intended to go to Phoenix, would you take into account the train-miles between Yuma and the junction at Wellton?

[fol. 2515] A. No, on the form S-1232 there is a district, Yuma to Tucson via Phoenix, so that those trains which also operate from Phoenix to Tucson would be excluded.

Q. Suppose that a train was operated from Phoenix to Tucson and then went on from Tucson to Lordsburg, would it be in here so far as it operated from Tucson to Lordsburg?

A. Yes, it would. May I make this observation, that it seems as though there is a lot of arithmetic mixed up in this exhibit, but really all it means is that on any one mile of railroad between Yuma and Lordsburg, for instance, there was an average during February, 1928, of three trains east and 2.77 trains west. If you had been standing at any one point, three trains would have passed you going east and 2.77 trains would pass you going west; and the exhibit is designed to give a conception of density of traffic in number of trains operated per day.

The Court: Of course, getting back to the question which I asked be stricken, that means trains reaching Tucson east-bound, if they were routed for your El Paso southwestern route, are not shown on the exhibit because it merely states "Yuma to Lordsburg".

[fol. 2516] A. Yes.

Mr. Mason: I don't know that I have offered Exhibit No. 191; if not, I now offer defendant's exhibit No. 191 in evidence.

Mr. Strauss: I object to it as irrelevant and immaterial.

The Court: Objection overruled, it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 191.")

Mr. Mason: Your Honor, I am about to pass to another exhibit which might take some time. I am perfectly willing to continue, but if Mr. Strauss wants to get back tonight.

The Court: Yes, the court will be at recess until Tuesday morning, January 21, at 10 A. M.

(Thereupon the court stood at recess until 10 A. M., Tuesday, January 21, 1941.)

[fol. 2517] January 21, 1941; Ten o'clock A. M.

All parties being represented as heretofore noted, proceedings were resumed at this time as follows:

The Court: You may proceed.

Mr. Mason: Your Honor may recall that on November 27th, when Mr. Kirk of the Missouri Pacific was on the stand, there were offered for identification but not in evidence at that time, Exhibits Nos. 24 and 25, Exhibit 24 being in one sheet and entitled, "Missouri Pacific Railroad Company, Freight Operating and Freight Transportation Expenses Related to Traffic, Calendar Years 1922 to 1939, Inclusive," while Exhibit No. 25 is entitled, "Missouri Pacific Railroad Company, Freight Service Operating Averages, Calendar Years 1922, 1924, 1926, 1928, 1930, 1932, 1934, 1936, 1938 and 1939." Your Honor, Mr. Kirk has returned to Tucson for the purpose of supplying certain underlying documents which had to do with the preparation of another succeeding exhibit, No. 26. We had planned to have come with him at this same time an accounting officer of the Missouri Pacific, who would bring with him the annual reports Form A to the Interstate Commerce Commission and the Forms OS-A and Forms OS-E used in [fol. 2518] preparation of Exhibits Nos. 24 and 25. The witness whose attendance was planned died very suddenly last week, and we haven't made any arrangements as yet for another witness. However, I have discussed with Mr. Strouss the matter of stipulating to the sources of the information shown on Exhibit 24, and as to certain questions which might be asked and answered as to those exhibits with the thought of dispensing with the necessity of bringing on such an accounting witness, much in the same manner as we stipulated with reference to Mr. Porter of the New York Central, and the stipulation that we have discussed and which I think is satisfactory with Mr. Strouss, that as to Exhibit 24 for Identification, it may be understood that the information shown on the face of the exhibit in columns C and D, represents the total—first, as to column C, represents for each year the total of the amounts shown as freight expense and apportioned to freight expense to accounts 201 to 462, inclusive, of Schedule 320, Railway Operating Expenses of the Missouri Pacific, for each of the years shown, that as to column D, the figures represent

the total of accounts 371 to 420, inclusive, as apportioned to freight operating expense, also a part of schedule 320 of [fol. 2519] the Annual Report to the Interstate Commerce Commission for the Missouri Pacific for each of the years as shown. Is that correct, Mr. Strouss?

Mr. Strouss: That is correct.

Mr. Mason: These in column D are the total of the figures in Accounts 371 to 420, freight transportation expense, as—transportation rail line as apportioned to freight transportation expense. Now, as to Exhibit No. 25, it is stipulated that the variation in the total of miles of line operated in freight service as shown in Item I of that exhibit has varied as between the years shown, and particularly has decreased in 1939 as compared to prior years, when the figure was greater, because of the abandonment, largely because of the abandonment of unprofitable branch-line mileage.

Mr. Strouss: With that stipulation we will waive our objection based on the grounds that the basic records were not produced.

Mr. Mason: Reserving the objection as to the relevancy and materiality.

Mr. Strouss: Yes.

Mr. Mason: I offer the exhibits in evidence subject to the [fol. 2520] objection as to relevancy and materiality.

The Court: The objection as to relevancy will be overruled. Exhibits 24 and 25, heretofore marked for identification, may now be admitted in evidence.

(Thereupon, the documents referred to were received in evidence and marked, respectively, as Defendant's Exhibits Nos. 24 and 25.)

Mr. Mason: Now, as to Exhibit 26, as I said before, Mr. Kirk is here. I will now recall him to the stand in connection with Exhibit No. 26.)

[fol. 2521] Mr. Mason: I will recall Mr. Kirk who has been previously sworn and testified.



W. F. Kirk was recalled as a witness in behalf of the defendant and having been previously sworn testified further as follows:

Direct examination (Continued).

By Mr. Mason:

Q. Mr. Kirk, on your previous appearance on the stand in connection with exhibit No. 26 which was then offered and received in evidence subject to objection, you testified that the records from which the exhibit was taken were not in court, those records being as you previously testified the dispatchers' train sheets for the districts and covering the dates shown on the exhibit and the profiles of record in the engineering department. I will ask you now if you have with you and present in the courtroom the dispatchers' train sheets from which is taken the information shown on exhibit No. 26 and likewise the profiles of the Missouri Pacific between the points shown?

A. I do, the train sheets are in those bundles there and the condensed profile is here.

[fol. 2522] Mr. Mason: Your Honor, we now tender for the examination of opposing counsel the train sheets and condensed profiles concerning which the witness has just testified.

Mr. Strauss: I would want to go over those; I will try and do it tonight.

Mr. Mason: We will ask Mr. Kirk to withdraw then pending your examination of the profiles. Have you any other questions you wish to ask him at this time?

Mr. Strauss: Not at this time.

The Court: Are you offering it in evidence at this time?

Mr. Mason: Your Honor, the exhibit was received in evidence but at page 448 the Court indicated a serious doubt in his mind as to the admissibility and we are undertaking to allay that doubt and supply the missing records.

The Court: Very well. You may step aside, Mr. Kirk, and be cross-examined later.

(Witness excused.)

Mr. Mason: Your Honor, at page 1987 of the transcript during the cross examination of Mr. Mahoney on January 8th of this year there was offered in evidence the book of

the Santa Fe entitled "Instructions for Operating and Maintaining Air Brake Apparatus," being Form 2591 [fol. 2523] Standard, published by the Santa Fe. At that time Mr. Mahoney agreed to supply additional copies of the book so that one copy might be made of record as an official exhibit and additional copies supplied to counsel and the Court. Mr. Mahoney has now supplied us with four copies of that book.

Mr. Strouss: Mr. Mason, in talking with Mr. Booth after that, we had sort of an understanding that each side would indicate the parts of the book that they wanted in evidence so as not to encumber the record with a lot of stuff that was not necessary. Did Mr. Booth talk to you about that?

Mr. Mason: No, I don't recall that he said anything to me directly about that. The book was received in evidence as exhibit No. 152.

Mr. Strouss: That is true, but he and I were talking about it later.

Mr. Mason: I suggest, then, that each of us go through the book in due course and we can stipulate to withdraw the book and substitute as exhibit No. 152 such excerpts as we severally consider should be part of the evidence.

The Court: Gentlemen, I think that should be done. We surely don't want to encumber the record with the entire book, a large portion of which will have no bearing on this [fol. 2524] case.

Mr. Mason: The printing and reproduction of this book as part of the appeal would be a terrific expense and largely useless. Shall we withhold the offer until the book has been severally examined and the parts indicated and we can have those parts copied.

Mr. Strouss: That is agreeable with me.

Mr. Mason: I will supply a copy of the book to the clerk which will be No. 152 for the time being.

Mr. Strouss: When we have determined the parts each desire, we can stipulate it into the record.

The Court: My recollection is, as the record now stands, the entire book is marked as an exhibit in evidence.

Mr. Mason: It is, yes. Mr. Mahoney was also asked at that time to supply copies of the operating timetables or more correctly identified as the employees' working timetables for the New Mexico division of the Western lines, the Albuquerque-Arizona-Los Angeles divisions of the

Coast lines, and a group of working timetables was given exhibit No. 153. He has now supplied us with several copies of these working timetables and I suggest that the entire group be physically made a part of the record as exhibit [fol 2525] No. 153.

The Court: Without objection, that may be done.

Mr. Mason: At page 1992, Mr. Mahoney was asked to supply the consists of passenger trains during the summer months for the past year, 1940, and agreed to supply them. The request was made by Mr. Strouss and it was then stated by myself that we could introduce the consists as an exhibit with an appropriate number at the time they were received. Mr. Mahoney has now supplied us with a mimeographed publication of several sheets, twenty-three pages including the title page, showing the consists as of June 2, 1940, of his passenger trains. This is a publication which as the title page shows is issued by Mr. Mahoney himself. I think it will be exhibit No. 192.

The Court: It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 192.")

Mr. Mason: Mr. Mahoney also stated in his letter with which he forwarded this material it should be understood, and I think Mr. Strouss will agree, that the consists as shown in this publication of consists are the minimum consists of these particular schedule trains.

[fol 2526] Mr. Strouss: Yes.

Mr. Mason: I will recall Mr. Sines.

B. S. SINES was recalled as a witness in behalf of the defendant and having been previously sworn testified further as follows:

Direct examination (continued).

By Mr. Mason:

Q. Mr. Sines, I think at the conclusion of the last session you had completed your discussion of exhibit No. 191, had you not?

A. That is right.

Q. Have you now before you a statement in one sheet entitled, "Gross Ton Miles per Train Hour and Net Tons per

Train, Salt Lake Division, Tucson Division and Pacific Lines'?

A. I have.

Mr. Mason: We ask that that statement be marked for identification as "Defendant's Exhibit No. 193."

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 193 for identification.

Mr. Mason:

Q. Was this exhibit prepared by you or under your direction?

A. It was prepared under my direction.

Q. From what sources?

A. From the Southern Pacific form 521.

Q. As to years prior to 1928 was the same form used?

A. Form 522 was used prior to the year 1928.

Q. The exhibit appears to consist of both a chart as well as a series of figures. Are the figures shown in the various blocks taken directly from the forms 522 and 521?

A. They are.

Q. What relation do the blocks bear to the figures?

A. The blocks indicate by their height the relationship existing between the figures.

Q. Are the blocks drawn to scale?

A. The blocks are drawn to the scale indicated at the left-hand side of the chart.

Q. How are the blocks related to the particular divisions or to the entire line?

A. In accordance with the legend appearing at the bottom of the sheet, the full black indicating the Salt Lake division, the hatched block indicating the Tucson division, and the blank block indicating the Pacific lines.

[fol. 2528] Q. Why was the showing confined to the years since and including 1923?

A. This information was not compiled prior to 1923.

Q. Has the exhibit been compared with the original sources?

A. It has.

Q. Are these the same original sources which were either furnished or agreed to be made available to Mr. Strouss in earlier testimony?

A. They are.

Q. Will you say whether or not the showing on the exhibit is true and correct?

A. It is.

Q. Will you explain the—first of all, the purpose of the showing in the upper block, in general terms?

A. The purpose of the showing in the upper block is to demonstrate the result of the increased train loading on the Salt Lake Division in comparison with the result of a fixed train loading on the Tucson Division in terms of gross ton-miles per train hour. These figures are available for the main lines, for the two divisions and for the System, so the branch lines were excluded.

Q. And what is the purpose of the lower block of the [fol. 2529] exhibit?

A. The purpose of the lower block is the same as for the upper block, but the comparison is expressed in another unit, net tons per train, net tons being the amount of load, pay load, and non-revenue load carried in the train, and is to indicate the advantage which the Salt Lake division obtains by increased train loading as compared with the train loading held at practically the same level on the Tucson division.

Q. Now, I refer you to Mr. Herbert's exhibit No. 178. Have you a copy of that at hand?

A. Yes.

Q. Perhaps it would be better to refer to exhibit No. 180, where there is a somewhat similar showing.

A. All right.

Q. I will ask you whether or not your exhibit No. 193 is to be read in connection with the showing of cars per train year by year for the two divisions and for the Pacific Lines as indicated by the center block of exhibit No. 180?

A. Yes, there is a direct relationship between the cars per train shown on Exhibit 180, and the train loading expressed in the two units shown on my exhibit No. 193.

[fol. 2530] Q. Now, the gross ton-miles takes into account what particular totals?

A. It takes into account the tonnage of the train and speed of the train.

Q. Well, does it take into account the tonnage of the locomotive?

A. No, it does not.

Q. Does it take into account the weight of the cars as well as their contents?

A. Yes.



Q. And when you speak of the speed of the train, to what particular feature of the showing on the upper block of this exhibit do you refer?

A. Referring to exhibit

Q. 193.

A. In miles per hour.

Q. Now, when you speak of net tons per train, I think you said it referred to the pay load.

A. And the company freight.

Q. Does the showing in the lower block exclude the weight of the equipment itself?

A. It does.

Q. Is this, in other words, the contents of the car?

A. That is right.

Mr. Mason: Have you any questions, Mr. Strouss, before [fol. 2531] the exhibit is offered?

Mr. Strouss: This is just the main line operations?

A. That is right.

Q. Does it include, so far as the Tucson division is concerned, the line through Phoenix?

A. It does, yes.

Q. What lines in the Salt Lake division? Is there any other than that between Sparks and Ogden?

A. Yes, the Fernley Line from the end of the Salt Lake Division at Alturas to Fernley. That is classified as main line on the Salt Lake Division.

Q. It does not include, of course, the so-called South line in Arizona, the Tucson-Douglas line, that is part of the Rio Grande division?

A. No, but only because it is not part of the Tucson division.

Mr. Strouss: Yes.

Mr. Mason: This exhibit shows the divisions year by year, as I understand it, Mr. Sines, although division limits may have been changed in intervening years?

A. That is true, and there was a change in the Tucson division limits in 1930 when the east end of the Tucson division was moved from Tucson to near Lordsburg.

[fol. 2532] Q. Does it also include any changes that may have been made in the Salt Lake division by naming a line as main line which was formerly branch line?

A. In November, 1929, the Fernley line was placed in main line service. Prior to that time it had been a branch line.

Mr. Strouss: Just to get this clear in the record, now, prior to 1931, what lines were included in the Tucson division?

A. Prior to July 1930?

Q. 1930.

A. The lines included in the Tucson division extended from Yuma to Tucson via Gila and from Wellton to Picacho via Phoenix, and the end of the Tucson division was located about, well, a few miles east of Tucson, just two or three miles east of Tucson.

Q. And in 1929, the Fernley line was made a main line on the Salt Lake division. What was the Salt Lake division prior to that, what lines were included?

A. Prior to November, 1929, the main line on the Salt Lake division extended from Lawton, Nevada, to Ogden, Utah, and in November, 1929, the Fernley line which, prior [fol. 2533] to that time had been a branch line, was thrown open to through main line service as a part of the route from Oregon, and that part of the Fernley Line between Fernley and Alturas belonging to the Salt Lake division was made a part of the Salt Lake division main line.

Mr. Strouss: That is all.

Mr. Mason: We offer the exhibit in evidence as Defendant's Exhibit No. 193.

Mr. Strouss: Objected to as irrelevant and immaterial.

The Court: The objection is overruled, it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 193.")

The Court: Mr. Sines, in examining this exhibit No. 193, I note that in the upper block practically without exception the Tucson division reached a higher level than the Pacific main lines, whereas, in the lower block, with the exception of the first three years, the Pacific Lines reaches a higher level than the Tucson division. Is that same showing made on Exhibit 180, I mean is that reflected there?

A. No, that is not apparent on Exhibit 180.

Q. Well, how do you account for that condition in this [fol. 2534] lower block?

A. The difference in loading characteristics of the business handled on the Pacific Lines as a whole, as compared with the particular business which is handled on the Tucson division, a large part of which consists of relatively light-load perishables from California and Arizona eastbound.

Mr. Mason: Has the exhibit been received?

The Court: Yes.

Mr. Mason: Mr. Sines, does the average loading of the cars handled in main line traffic enter into the showing in the lower block of Exhibit No. 193?

A. Yes.

Q. Just in what way does the actual loading of the car affect the showing on the lower block?

A. The perishable business across the Tucson division during the entire seventeen years shown on the exhibit has bulked large in the tonnage handled on that division, but the loading on the System as a whole is influenced by lumber loading in California and Oregon, by petroleum products, and the average per car on the System, average net tons per car on the System has shown a greater fluctuation than the average net tons per car on the Tucson division.

[fol. 2535] Q. Now, you spoke of the influence of perishable loading on the net tons per train. Is that because the perishables load on the average less tons per car than other types of nonperishable freight?

A. Yes.

The Court: Well, do I understand then, Mr. Sines, that in computing the gross ton-miles per train hour, eliminating the locomotive, that includes, I take it, the gross weight of the train itself, that would be the cars and the contents of the cars?

A. Yes.

Q. Whereas, in the lower block the net tons per train, that merely includes the load of the car?

A. Yes.

Q. Rather than their gross weight?

A. That is right.

Mr. Mason: Now, Mr. Sines, has the influence of preponderant perishable business, which you have mentioned for the Tucson division, in any way affected the net tonnage per train on the Salt Lake division?

A. That same influence would be felt on the Salt Lake division, but it would be less marked because the lumber [fol. 2536] business that I mentioned eastbound, originating in Oregon and California, moves eastward to a greater extent over our Ogden route.

Q. Would ore loading, if there is any substantial amount of ore, or concentrates, affect the net tons per train?

A. Yes, and there is an ore movement on the Ogden route between Cobre and Ogden.

[fol. 2537] Q. Is there also a movement of ore or other heavy loading commodities on the Tucson division?

A. Yes, out of Gila and Tucson.

The Court: What does that consist of?

A. Concentrates from Ajo.

Mr. Mason:

Q. What is the reason that there are more net tons per train in the years since 1926 particularly on the Salt Lake division than on the Tucson division?

A. There are more cars per train on the Salt Lake division than there are on the Tucson division, which permits us to build up the net ton load per train on the Salt Lake division.

Q. What is the reason for the showing of more gross ton-miles per train hour on the Salt Lake division since the year 1924 than on the Tucson division?

A. Once again that is the result of a greater number of cars per train on the Salt Lake division.

Q. What is the reason why the gross ton-miles per train hour on the Tucson division is indicated as being somewhat heavier or greater in each year than for Pacific lines as a whole?

A. The factors influencing that are found on exhibit No. 180 where in the first block is shown the average speed in miles per hour on the Tucson division as somewhat higher [fol. 2538] than the average speed in miles per hour on the Pacific lines and the average loading in cars per train on the Tucson division is slightly higher than the average on the Pacific lines although that would be influenced by the factor which we have discussed heretofore of loading per car. The net result of those three factors, cars per train, net tons per car, and speed in miles per hour, is shown in the first block

on exhibit No. 193, and even there it will be noticed that the years subsequent to 1936 show the Pacific lines closer to the Tucson division than we were at the beginning back in 1923, 1924, and 1925.

Q. I wish you would refer to Mr. Masson's exhibit No. 165. Have you a copy of that?

A. Yes.

Q. I will ask you to refer to the first block of his exhibit headed with the figure "(1)", "Freight Revenue per Freight Service Train Mile," and ask you whether the showing of net tons per train as between the Tucson and Salt Lake divisions finds any reflection in the comparative figures of revenue per train-mile for the states of Nevada and Arizona as shown on that exhibit?

A. Yes, the freight revenue per train-mile shown on exhibit [fol. 2539] No. 165 is a direct product of the loadings expressed in net tons per train shown on exhibit No. 193.

Q. Just why is that? Is the revenue related to the amount of freight in the train?

A. That is right, it is. I want to call attention to the fact that exhibit No. 165, starting about the year 1929 in the columns B and D, indicates a close relationship between the Pacific lines and the state of Arizona in freight revenue per train-mile. The explanation for that is found, of course, on my exhibit No. 193 where the net tons per train are very nearly the same. However, starting with the year 1925 the freight revenue per train-mile for the state of Nevada, column C on exhibit No. 165, begins to draw away from the revenue on the Pacific lines and the state of Arizona and thereafter the difference is an increasing difference; the state of Nevada outstrips the Pacific lines and the state of Arizona just as it does on my exhibit No. 193 where the Salt Lake division net tons per train far exceeds the Tucson and Pacific lines loading.

Q. Does that complete your discussion of exhibit No. 193, Mr. Sines?

A. Yes.

[fol. 2540] Mr. Mason: Do you have any questions, Mr. Strouss, on the exhibit?

Mr. Strouss: Not at this time.



Mr. Mason:

Q. Have you a statement in one sheet, Mr. Sines, entitled "Classes and Number of Employees, Tucson Division, Years 1934, 1938, and 1939"?

A. I have.

Mr. Mason: We ask that this statement be marked "Defendant's Exhibit No. 194" for identification.

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 194 for identification.

Mr. Mason:

Q. Did you prepare exhibit No. 194 or cause it to be prepared?

A. I supervised its preparation and had a lot to do with its compilation myself.

Q. You show the sources from which it was prepared. Will you identify those sources, please?

A. The sources are as indicated in the note in parentheses in the title, "Data abstracted from I. C. C. Wage Statistics, Forms A and B, Monthly Report of Employees, Service, and Compensation."

Q. Have you the reports to the Interstate Commerce Commission covering the Tucson division for the twelve [fol. 2541] months of each of the years 1934, 1938, and 1939?

A. I have them in my possession in Tucson and I will have them in the courtroom here at eleven o'clock, about ten minutes from now. I overlooked the fact that I was going to present this exhibit; I intended to bring them over.

Q. Has the information shown on this exhibit been checked from the underlying forms that you have just referred to?

A. It has.

Q. You show in the title the words, "Averaged to Annual Basis." Why is that?

A. That is because the carriers including the Southern Pacific Company make monthly reports to the Commission without making a summary annual report. I undertook to make a summary annual report by averaging the figures reported monthly by our company.

Q. Did you do that by taking a straight average of the figures reported for the middle of each month?

A. Yes, because the count that I have made is the number of employees receiving pay checks—no, my reply should be “No,” it is not the averaging number of employees during the month but it is the number of employees receiving [fol. 2542] pay checks.

The Court: Irrespective of the amount of that pay check?

A. Yes.

Mr. Mason:

Q. This is the number of employees who received compensation for personal services to the company during each of the months of each of the three years shown averaged for each year?

A. That is right.

Q. It is not the I. C. C. middle of the month count, then?

A. No.

Q. It is the payroll count?

A. That is correct. There are two bases on these forms, A and B, reported to the Interstate Commerce Commission. One is the middle of the month count that you speak of and the other is the number of employees receiving pay checks, which I used as the basis.

Q. Have you checked the computations by which these average figures were determined?

A. I have.

Q. Will you say whether or not that is a true and correct reflection of the figures appearing in the underlying documents as summarized by computation in the manner you have described?

[fol. 2543] A. It is.

Mr. Mason: Have you any questions on the exhibit, Mr. Strouss?

Mr. Strouss: No, I have no questions.

The Court: This includes branch lines as well as main line?

A. Yes, sir.

Q. What year was the main line completed to Phoenix?

A. It seems to me it was 1926.

Mr. Mason: It was placed in service approximately the first of November, 1926, was it not?

A. I don't recall. We have a record of it.

Mr. Strouss: I think it is in the record already; it seems to me it was 1925. Why did you take the years 1934, 1938, and 1939?

A. A year ago we were preparing for a case which we thought we might have in the Federal court. 1938 was the last complete year at that time. Then I went back five years to 1934 to show how many we had in 1934 and last year I just added another year to the showing.

Mr. Strouss: You don't have that for the periods prior to that, say, 1929 and 1925?

A. Haven't it worked up, but the records are available. I don't have those records in Tucson, but they are available [fol. 2544] in our San Francisco office.

The Court: Would it be quite a job to prepare this exhibit, Mr. Sines?

A. Oh, yes, the work sheet has to show columns of figures for every one of the twelve months of the year and then they have to be computed across and footed and totaled.

Mr. Mason:

Q. You have undertaken here to show by the number and classification. Does that involve additional computation?

A. Yes, each classification is a computation in itself, of course.

Mr. Mason: We offer the exhibit as defendant's exhibit No. 194.

Mr. Strouss: Just one other question. 1934 was in a sense an abnormal year because you were more or less in a period of depression so far as volume of business is concerned?

A. That is right, we were experiencing a mild recovery by 1934.

Mr. Strouss: I object to it as irrelevant and immaterial.

The Court: Objection overruled, it may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 194.")

[fol. 2545] Mr. Mason:

Q. Mr. Sines, is it possible to make from the face of this exhibit a computation of the number of employees directly engaged in train service as opposed to yard service?

A. It is.

Q. You made that computation for the year 1939?

A. I haven't made the computation but the figures are on the face of the exhibit and can be determined by inspection. Looking at line 42, we find enginemen-yard service for the year 1939, 50.

Q. That includes both engineers and firemen, does it?

A. Yes. Line 46 shows trainmen-yard service for the year 1939, 115. Adding those two together, we have 165 men employed in yard service; deducting 165 from 809 leaves 644 employees engaged in other transportation services.

Q. You speak of 644, that includes engineers and firemen, conductors and brakemen, does it?

A. Yes.

Q. And only those classes?

A. Only those classes.

Q. It does not include any officials such as the assistant superintendent or train master or road foreman of engines who ride the trains?

A. No.

[fol. 2546] Q. Or any yard employees at all?

A. No, they are taken out in the 165.

The Court: We will take our mid-morning recess at this time.

(Thereupon a short recess was taken, after which proceedings were resumed as follows.)

[fol. 2547] The Court: You may proceed.

Mr. Mason: Mr. Sines, referring to exhibit No. 194 further, and particularly to transportation employees, I think you gave the figure of 644 as those who were in all train service, is that correct?

A. That is correct.

Q. Now, have you a further subdivision of those employees as between passenger service and freight service?

A. Yes; passenger-service employees are shown in line 39; with 47 for 1939, and line 43 with 49 for 1939, gives us a total of 96, subtracted from 644, leaves 548 employees in through and local freight service.

Q. Now, those 96 are the employees who manned the train subject to the 14-car limitation, is that right?

A. That is correct.

Q. Now, as to the freight service, have you a subdivision as between through freight service and local freight service?

A. Yes; local freight service employees are shown in line 41 with a total of 17 for 1939, and line 45, 32 for 1939, giving the total of 49; subtracting that from the 548 leaves 499 [fol. 2548] employees in through freight service.

Q. And that is the total of lines 40 and 44, is it?

A. That should be the total of lines 40 and 44, and it is 499.

Q. Now, are those 499 employees who manned the trains affected by the 70-car limit law?

A. Yes, they are. I suppose that some of the local trains operating on the main line occasionally have their length governed by the 70-car law, but those on the branch lines, it would be infrequent that the 70-car provision became a factor in those trains, so that the 499, by this process of deduction we have arrived at 499 as the number of those who are directly affected by the 70-car limit of the Arizona law; and I want to call attention to the fact that this 499 compares with a total of all employees on the Tucson division of 2,693.

Q. You have 499 employees in through freight train service, and 96 in passenger service, is that correct on the Tucson division?

A. Yes.

Q. A total of 595?

A. Yes.

Q. Who manned the trains affected by the fourteen or [fol. 2549] 70-car limitation?

A. Yes.

Q. Excluding for the moment local freight service?

A. Yes.

Mr. Mason: Have you any questions on Exhibit 194 at the present time?

Mr. Strouss: No.

Mr. Mason: Mr. Sines calls my attention to the fact that he now has in the court room the monthly reports of employees, service and compensation, rendered by the com-



pany to the Interstate Commerce Commission, and covering the Tucson division for the year 1939, which are, for the year 1939, the underlying documents testified to by him as being used in preparing exhibit No. 194, and we offer those for the examination of opposing counsel.

The Witness: I am sorry to say they have only the year 1939, the other two years are still not in the court room.

The Court: You will produce them this afternoon.

Mr. Mason: I will make the further statement that as to the balance, we will produce those as soon as possible and [fol. 2550] probably at the afternoon session.

Q. Is that all that you have at this time on No. 194, Mr. Sines?

A. Yes, sir.

Q. Have you a statement in six sheets, or, rather, an exhibit in six sheets, the initial page of which bears the title, "Interstate Commerce Commission Orders Concerning the Matter of Method and Form of Records to be Kept by Carriers Relating to the Time on Duty of Employees and the Movement of Trains"?

A. I have.

Mr. Mason: May we have this exhibit marked as Exhibit 195 for identification?

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 195 for identification.

Mr. Mason: Now, of what do the first four pages of Exhibit No. 195 for identification consist, Mr. Sines?

A. The first four pages —

Q. The first four sheets, I should say?

A. The first four sheets consist of reproductions of an order of the Interstate Commerce Commission.

Q. Aren't there in fact two orders, one dated May 2, [fol. 2551] 1921, and the other dated February 13, 1922?

A. That is right.

Q. And are these the photostatic reproductions or the equivalent of photostatic reproductions of the text of the Commission's orders?

A. They are.

Q. And are they the entire orders of the Commission? Have you made any omissions?

A. No, with respect to the subject matter covered by the orders, these are the entire orders.

Q. Now, what is sheet 5 of Exhibit 195 for identification?

A. Sheet 5 is the Southern Pacific adaptation of the Interstate Commerce Commission's order shown on sheet 2 of the exhibit. The title of the report is "Time Return and Delay Report of Engine and Train Employees" in both cases.

Q. Is this form a form regularly and continuously used by Southern Pacific employees?

A. It is.

Q. Is it a form rendered to the Commission and thereafter kept in the Company's records?

A. It is.

Q. Who renders the report?

A. The conductor in charge of each train crew.

Q. Is a similar report rendered by engineers where there [fol. 2552] is a movement not in charge of a conductor?

A. The conductor is in charge of each train crew for the train service employees and the engineer in charge of each engine crew, which consists of an engineer and fireman for the engine crew. Occasionally, there is a flagman who may work on one or more trains and who may render his own time return and delay reports. That is very occasional, however.

The Court: But do I understand that in the normal train operations with the average crew, that it is only the conductor that makes the reports?

A. No, both the engineer and the conductor.

Q. But the other individual employees such as your brakeman or fireman wouldn't submit an individual report?

A. No.

Mr. Mason: Now, as to sheet No. 6 of exhibit No. 195 for identification, what is that?

A. That is the Southern Pacific adaptation of the Interstate Commerce Commission's order shown on sheet 4 of the exhibit and is the dispatcher's record of movement of trains, commonly referred to as the dispatcher's train sheet.

[fol. 2553] Q. And this particular adaptation, which forms a part of this exhibit, is it associated with any particular district or territory?

A. It is for that part of the Tucson division between Gila and Tucson, and Tucson and Lordsburg, the territory being divided into such train districts for convenience in

handling train sheet, and also because those are the freight districts upon which freight trains operate.

Q. Do you know and, if so, will you state whether this form of train sheet which is reproduced as Sheet 6 of Exhibit 195 is in regular and daily use on the Tucson division?

A. Yes, it is.

Q. Have you seen it in use?

A. Yes.

The Court: This sheet is similar but on a smaller scale to the train dispatcher's sheet heretofore marked for identification in this case, but not admitted in evidence?

A. That is right.

Mr. Mason: I will ask you this, Mr. Sines, if sheet 6 of Exhibit 195 for identification is a reproduction in exact size or reduced size?

A. It is a reduction.

Q. Why was the reduction made?

[fol. 2554] A. Simply to cut down the bulk of the exhibit.

Q. For convenience in reproduction, or presentation here?

A. Yes.

Q. Has the material in Exhibit 195 been checked against the sources which it purports to reproduce?

A. It has.

Q. Will you say whether or not it is a true and correct reproduction of the matter which it purports to reproduce?

A. It is.

Q. What is the purpose of reproducing the Commission's orders and the blank forms?

A. The purpose is to indicate the sources and the types of information which forms the basic record of train movements, and of service by the train service employees.

Q. Are these orders reproduced on Exhibit 195 for identification the latest orders of the Interstate Commerce Commission pertaining to this subject?

A. They are.

Q. Are they the orders now in effect?

A. They are.

Mr. Mason: Have you any questions, Mr. Strouss?

[fol. 2555] Mr. Strouss: No questions.

Mr. Mason: We offer the exhibit in evidence as Defendant's Exhibit 195.

Mr. Strouss: No objection.

The Court: It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 195.")

Mr. Mason: Mr. Sines, reverting back for a moment to Exhibit 194, do you now have with you the reports of employees, service and compensation, for the years 1934 and 1938 for the Tucson division?

A. Yes, I have, and I have delivered them to Mr. Strouss.

Q. Mr. Sines, have you made or supervised the making of any study or studies for the purpose of determining upon the character of the operations which would be conducted by the Southern Pacific Company if the law were not in effect?

A. I have.

Q. Briefly, what is the short title or short name of those studies?

A. A redispatching study.

Q. Precisely what do you mean, first, in general terms, by "redispatching study?"

A. A redispatching study consists of a detailed analysis [fol. 2556] of each of the freight and passenger trains actually operated to determine the consist, that is, the number of cars and contents, their destinations, the amount of local work to be performed by each of the trains, to determine also other factors having a bearing upon the operation of the trains, such as weather conditions, the amount of interference from trains traveling in the opposite direction, also trains which may pass and be passed, and all other essential features of operations of trains, and, having determined all such factors, the redispatching study also consists of the complete rearrangement into redispatched trains of the cars and traffic actually moved so as to conform the operations to conditions which would have obtained if the law were not in effect.

Q. Did you for the purposes of the present case make more than one such study?

A. I did.

Q. How many redispatching studies did you make or supervise?

A. Six.

Q. Have you an exhibit in one sheet which lists briefly the studies so made?

A. I have.

[fol. 2557] Q. Will you state the title of the exhibit which has been referred to?

A. "Redispatch and Other Studies Made to Determine Effect of Arizona Train Limit Law on Freight and Passenger Operations."

Mr. Mason: May we have this statement marked as Defendant's Exhibit No. 196 for identification?

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 196 for identification.

Mr. Mason: Mr. Sines, did you prepare Defendant's Exhibit No. 196?

A. I did.

Q. For the purpose of giving a short summary of the studies undertaken and indicating their nature and period?

A. Exactly.

Q. Did you prepare the exhibit personally?

A. I did.

Q. I take it that in your further testimony you will go into each item and explain it in more detail?

A. I will.

Mr. Mason: Have you any questions, Mr. Strouss?

Mr. Strouss: No.

[fol. 2558] Mr. Mason: I will say that the exhibit is merely offered as a convenient way of summarizing and placing on one sheet and in one place the several studies concerning which the witness will testify personally. We offer the exhibit as Defendant's Exhibit No. 196.

Mr. Strouss: Objected to as irrelevant and immaterial.

The Court: The objection is overruled. It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 196.")

Mr. Mason: Mr. Sines, will you state how you first came to undertake any redispatching studies for the purpose of Arizona operations?

A. I was detached from my regular assignment as an executive assistant on the president's staff, and placed in charge of the redispatching studies which were about to be made in connection with an action which we filed in the Federal Court in the spring of 1939.



Q. When were you actually detached from your regular assignment and assigned to the preparation of that particular case?

A. May 1, 1939.

Q. Now, did you in that connection have any conference [fol. 2559] with officials of other departments preliminary to undertaking the actual studies?

A. Yes, at various times during that month I had conferences with representatives of the vice-president of operations, Mr. J. H. Dye, who testified here last week.

Q. Did you also confer with your fellow officers in the executive department?

A. Yes, and with members of the mechanical department, also.

Q. With whom particularly did you confer in the executive department?

A. Mr. V. S. Andrus, manager of the Bureau of Transportation Research, who is also a member of the president's staff.

Q. What were the reasons for holding these prior conferences?

A. In order to determine what the plan of operation would be in Arizona in event the Arizona Train Limit Law were set aside.

Q. Was it necessary to determine what character of locomotives or motive power should be used?

A. Yes.

Q. What other factors were particularly essential to determine for the purposes of your study?

[fol. 2560] A. There were three essential elements that had to be determined immediately. One of them was the locomotives which you have mentioned, and the other was the length of freight train which would be operated in each direction, because the length of the individual freight train depends upon the locomotive; and a third factor was the length of siding, the physical plant which would be provided for the operation of the trains in the territory.

Q. Did you have to make any determination as to the revision or rebuilding of engine house or roundhouse facilities?

A. Yes, that was considered subsequent to the choice of the locomotive.

Q. In connection with the siding extensions, did you have to decide where they should be placed?

A. Not as a result of those preliminary conferences; that came along later.

Q. Now, as a result of those preliminary conferences, did you yourself reach any conclusion as to the type of locomotive which should be used?

A. Yes.

Q. What type of locomotive was decided upon?

A. A locomotive similar to the articulated Consolidation locomotive which we were then purchasing, and which is commonly referred to as the AC-8. We had some under [fol. 2561] construction, and they were delivered to us late in the summer, and fall, of 1939.

Q. I will ask you to refer if you will, please, to Mr. Russell's Exhibit No. 5, also to his Exhibit No. 7.

A. Yes.

Q. Do you have reference to locomotives similar to the AC-8 referred to on his exhibit No. 5?

A. Yes.

Q. And by reference to Exhibit No. 7, are there any AC-8 locomotives referred to there?

A. Not directly, but they are the 28 locomotives shown in line 43, the 4-8-8-2's.

[fol. 2562] Q. Did you as a result of your conference reach any conclusion as to the length of trains to be operated?

A. Yes, it was decided that the general length of train to fit this locomotive would be one hundred loaded cars eastward between Yuma and El Paso and 125 empty cars westward between El Paso and Yuma.

Q. What about the length of westward trains not consisting of empties?

A. Trains with loaded cars would have their length varied in accordance with the capacity of the locomotive to haul the train, but generally 125 cars would be the maximum train operated.

Q. Were these limits of 100 cars in one direction and 125 in the other set as definite maxima or as mere guides?

A. As guides. There was no hard and fast rule as to the length of trains in either direction, but we generally followed the plan of redischarging 100 cars east and 125 cars west.

Q. Having decided upon the length of trains to be operated in each direction, were you then able to determine upon your siding extensions, if any?

A. Yes, after the redispatching party, the men who performed the redispatching study were called together and [fol. 2563] we reviewed the side-track situation on the Tucson and Rio Grande divisions and picked out those sidings which should be extended in order to permit of a complete long train operation.

Q. Of train lengths such as you have indicated?

A. Yes.

Q. You speak of calling the redispatching party together. Did you undertake to collect a force of assistants to carry on the redispatching study under your supervision?

A. I did.

Q. Of whom did this party consist, referring now to the study which, as you have indicated, was undertaken after your assignment on May 1, 1939?

A. The party consisted of three chief dispatchers in the territory between Los Angeles and El Paso, Mr. J. A. Day, chief dispatcher of the Los Angeles division; Mr. G. C. Baker, who was then chief dispatcher of the Tucson division; and Mr. L. D. Herrell, chief dispatcher of the Rio Grande division. Mr. Baker brought along with him to assist him a trick dispatcher from Tucson and we also had the services of a trick dispatcher who had worked on the Rio Grande division and had dispatched trains on the territory between Tucson and Lordsburg and Lordsburg and El Paso. [fol. 2564]

Q. Did you have any clerical help?

A. That was the dispatching force. I had the assistance of Mr. W. P. Herbert, assistant engineer in the Bureau of Transportation Research, and a representative from the timekeeping department, Mr. H. C. Gaverick, and other clerical and stenographic assistance as required. Because of the number of exhibits, charts, and graphs that were prepared, it was necessary to detach a draftsman from the engineering department and assign him to my party also.

Q. I take it you are referring to the redispatching study which is shown as item 1 of exhibit No. 196 and do you have in mind also the item 2 or, the passenger redispatching study?

A. That was made by the same party during the summer of 1939, yes.

Q. Was item 3, the analyses of passenger operations for the year 1938, also made about the same time?

A. Yes.

Q. What as to item 4, the freight redispatching study, Phoenix to Tucson, month of December, 1939?

A. That was made in the fall of 1939 by Mr. Henry Cassidy, who had succeeded Mr. G. C. Baker as chief dispatcher of the Tucson division. He joined our party in San Francisco [fol. 2565] and was responsible for the freight redispatching study, item 4, and also assisted in making the passenger redispatching studies, items 2 and 3. I believe Mr. Baker was promoted to assistant superintendent of transportation in the latter part of August.

Q. 1939?

A. 1939.

Q. Were any data and records assembled for the purposes of the studies?

A. Yes.

Q. Will you describe generally what they were?

A. The records that we assembled were the dispatchers' train sheets for the territory Los Angeles to El Paso for the Los Angeles, Tucson, and Rio Grande divisions for the months of June and August, 1938, for item 1, and for the entire year 1938 for items 2, 3, and 4. We also had the conductors' time return and the delay reports for the Tucson and Rio Grande divisions for the entire year 1938. We had the freight conductors' wheel reports for the months of June and August, for the Tucson and Rio Grande divisions and for the month of December for the Tucson division. We had the passenger conductors' wheel reports for the entire year 1938. We had the timetables [fol. 2566] which had been in effect during the year 1938 on the Los Angeles, Tucson, and Rio Grande divisions. We had yard records at Yuma and Tucson.

Q. Did you have any terminal delay reports or log books maintained at any of the terminals?

A. Yes, those at Yuma and Tucson.

Q. Were there any files from the dispatchers' offices assembled for the purpose?

A. We had the conductors' daily correspondence and telegraphic files for the entire year 1938 for Tucson and Rio Grande divisions.

Q. You say the conductors', you mean the dispatchers'?

A. The chief dispatchers', yes.

Q. When was the active work of conducting the 1938 redispatching study, item 1, commenced and where?

A. May 15, 1939, the party assembled in Los Angeles.

Q. Did you conduct the study thereafter at Los Angeles or did you move to San Francisco?

A. We worked there for several weeks and determined that the interest of the Los Angeles division and the freight redispatching study was very slight so I then moved the entire party to San Francisco.

[fol. 2567] Q. When was the 1938 freight redispatching study completed, approximately?

A. In September.

Q. Was the party continuously at work from the fifteenth of May until September in connection with the study?

A. It was, yes.

Q. Your exhibit No. 196 indicates that you studied the two months of June and August, 1938. Why were those two months selected for the purpose of the study?

A. June is the month of heaviest traffic and August is the month of lightest traffic for the year 1938 for the territory between Yuma and El Paso, and by studying the heaviest and lightest months I obtained a cross-section of the year's business.

Q. How does the total business handled over the district during the months of June and August, 1938, compare with the business for the year, if you know?

A. The business handled between Yuma and El Paso equalled 17.89 per cent of the year's business handled during 1938.

Q. Is that expressed in car-miles or ton-miles?

A. That computation was made in either car-miles or [fol. 2568] gross-ton-miles. I will have to answer that question specifically after I have looked at one of my exhibits.

Q. You will have an exhibit later which shows the exact relation?

A. It shows the derivation of the 17.89 per cent. One-sixth of the year's business would equal 16.67 per cent; the amount by which these two months depart from an average is slightly over one per cent.

Q. You have stated that for the purpose of the redispatching study you determined certain sidings to be extended?

A. Yes.

Q. Have you prepared an exhibit showing an outline map of the lines between Los Angeles and Tucuman?

A. I have.



Q. Showing the stations and certain other information?

A. Yes.

Q. Is this a statement in one sheet bearing the title, "Present and Proposed Siding Capacities Expressed in Number of Cars"?

A. Yes, sir.

Mr. Mason: May that statement be marked for identification [fol. 2569] as "Defendant's Exhibit No. 197"?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 197 for identification.

Mr. Mason:

Q. Was exhibit No. 197 prepared under your supervision?

A. It was.

Q. What do the figures without circles opposite the names of stations on the map indicate?

A. They indicate the present car capacity of sidings.

Q. What do the figures in circles indicate?

A. They indicate the proposed car capacities or the lengths to which those particular sidings are to be extended.

Q. How did you arrive at the determination of the sidings to be extended and the lengths of the extensions?

A. Our chief dispatchers, that is, Mr. Baker for the Tucson division and Mr. Herrell for the Rio Grande division, indicated the particular sidings which it would be necessary to extend in order to permit a complete long train operation in accordance with our plan of operating 100 cars east and 125 cars west as general train lengths.

Q. Did you make any study jointly with these chief dispatchers [fol. 2570] of the situation on these two divisions?

A. Yes, I examined the employees' time cards and the profiles of the railroad and discussed each case individually with the dispatchers to find out and satisfy myself as to how the particular extensions indicated would fit into the general over-all operating plan.

Q. Are you yourself personally familiar with all or a portion of the line here from having had experience in connection with it?

A. I am intimately familiar with the territory east of Tucson, having worked on the Rio Grande division for eight years. I suppose I have been on the ground at every one of the sidings in that territory during that eight years. I am generally familiar with the territory west of Tucson.

Q. Have you made personal inspections of that territory as well?

A. Yes, both on freight and passenger trains.

Q. Will you say whether or not the showing on exhibit No. 197 represents the lengths of the sidings as they exist or would exist for the purposes of complete long train operation?

A. It does.

Mr. Mason: Have you any questions, Mr. Strauss?  
[fol. 2571] Mr. Strauss: No questions.

Mr. Mason: We offer the exhibit in evidence as defendant's exhibit No. 197.

Mr. Strauss: I object to it as irrelevant and immaterial and calling for an opinion and conclusion of the witness and purely speculative.

The Court: I will overrule your objection as to this particular exhibit but I do think from the statements of this witness as to this exhibit some of these matters may be objectionable on the line that you indicate, Mr. Strauss. If I correctly interpret this exhibit, it gives two classes of information; first, it gives the present capacity, does it not, Mr. Sines, of the sidings on the route from Los Angeles to El Paso?

A. It does.

The Court: And then in circles it gives the proposed increases that you would make if it were not for the Arizona Train Limit Law as to those sidings where the circles are shown?

A. Yes, and which had to be made in order to permit us to make our redischarging studies.

The Court: I will overrule the objection as to this exhibit, it may be admitted in evidence.

(The document referred to was received in evidence and [fol. 2572] marked "Defendant's Exhibit No. 197.")

The Court: I notice, Mr. Sines, with possibly two or three exceptions on your Douglas route and on the Phoenix route there are no proposed extension of sidings?

A. That is right. There is only one extension on the Phoenix route at Topaz and there are none on the Douglas route. The one which you may think is on the Douglas

route is the one at Conrad, but that is really a station on the north line, three sidings west of Lordsburg.

The Court: We will take our noon recess at this time. The court will be at recess until two o'clock.

(Thereupon at twelve o'clock noon the court stood at recess until two o'clock P. M. this day, January 21, 1941.)

[fol. 2573] January 21, 1941, two o'clock P. M.

Proceedings were resumed at this time as follows:

The Court: You may proceed.

The witness B. S. SINES was recalled to the stand and testified further as follows:

Mr. Mason: Mr. Sines, you have testified as to the fact that your redispatching study contemplated the use of AC-8 locomotives in place of those in use on the division in June and August, 1938?

A. Yes, sir.

Q. For freight service?

A. Yes, sir.

Q. Did you contemplate any change in the locomotives to be used on passenger trains, for the purposes of your redispatch study of the passenger train operations?

A. No, the passenger locomotive assignment was the same in the passenger redispatch study as those used in actual operation.

Q. Now, you have also testified, I think, that certain changes in roundhouse and turntable facilities were contemplated in the redispatching studies?

A. That is right.

[fol. 2574] Q. Why would that be required?

A. Because these AC-8 locomotives are somewhat longer than the locomotives in use, and the turntables installed at Yuma and El Paso would have to be lengthened to accommodate the longer locomotives. The turntable at Yuma would have to be lengthened but not the one at El Paso, that has already been lengthened.

Q. You have testified that your plan of redispatching contemplated the extension of certain sidings as shown on the exhibit last introduced, No. 197?

A. Yes.

Q. Now, I will ask you whether in the plan adopted for the redispatching study of 1938, you contemplated any changes in the conditions of operation as they prevailed on the divisions in June and August, 1938, other than those that you have just mentioned and, of course, the absence of the 70 and 14-car restrictions?

A. No, there were no other changes in the physical plant or in the equipment contemplated in our redispatch study.

Q. What traffic was studied for the purpose of the redispatching study, of the 1938 freight redispatching study?

[fol. 2575] A. Exactly the same traffic was handled in the redispatch study as the traffic that actually moved over the railroad during those two months.

Q. And how was this traffic handled for the redispatching study? Did you make any difference in the trains in the redispatched trains as between those and the actual trains?

A. The only difference that existed between actual handling and that contemplated under the redispatch study was the length of the train.

Q. Well, was the traffic redistributed into longer trains?

A. The traffic was redistributed into longer trains, yes.

Q. Did the plan contemplate different departure time of the redispatched trains?

A. There were different departure times from intermediate terminals, such as Gila, Tucson and Lordsburg, due to the different arrival times at those intermediate terminals after the trains had worked their way across the railroad from the initial terminals of Yuma and El Paso. The departing times at Yuma and El Paso, eastward trains at Yuma and westward at El Paso, corresponded very closely with the departure times of the trains actually operated.

[fol. 2576] Q. Were there more trains in the redispatching study or less trains than there were in the actual operation?

A. There were less trains on the redispatched study than in actual operation.

Q. At what point did the redispatching of eastbound traffic commence?

A. At Yuma.

Q. At what point did the redispatching of the westbound traffic commence?

A. At El Paso, Texas.

Q. Who was directly and actively in charge of the re-dispatching of the traffic eastward from Yuma?

A. G. C. Baker, chief dispatcher of the Tucson division.

Q. And who was actually and actively in charge of the re-dispatching of the traffic west from El Paso?

A. L. D. Herrell, chief dispatcher of the Rio Grande division.

Q. How far did Mr. Herrell handle the re-dispatched westbound traffic?

A. As far as Lordsburg, New Mexico.

Q. And who received it at that point?

A. Baker.

[fol. 2577] Q. How far did Mr. Baker handle the eastward traffic?

A. From Yuma to Lordsburg.

Q. What was done with it then?

A. It was there turned over to Mr. Herrell.

Q. As the chief train dispatcher of the Rio Grande division?

A. Yes.

Q. Did the re-dispatching study contemplate any rearrangements of traffic handled on the South line between Tucson and El Paso via Douglas?

A. Yes.

Q. Was this in connection with the study of the North line?

A. Yes, it was carried along simultaneously with the re-dispatch study which was performed for the North line. Actual operating conditions were simulated from day to day, and Herrell surveyed the entire situation west of El Paso, taking into consideration both the north and south lines and the distribution of traffic which he had originally made in actual operations and which he proposed to re-dispatch in the re-dispatch study; likewise, Baker, in re-dispatching trains from Tucson eastward, took into consideration the distribution which he had originally made [fol. 2578] between the two lines and re-dispatched that traffic as between the north and south lines.

Q. Well, on what sort of record were the re-dispatched train movements shown?

A. On train sheets, on fresh train sheets the same as those that are used in the ordinary course of business.

Q. Was a re-dispatch train sheet made for each day covered by the re-dispatching study?



A. Yes, exactly the same as is done in actual train operation.

Q. What information, generally speaking, was shown on the redispatch train sheets?

A. The redispatch train sheet shows the identity of the train by designation, that is, whether it is a perishable train, a manifest train, a drag, or a stock train; by its position on the train sheet it is also possible to tell whether it is a freight train or passenger train, the train number, the operating train number was shown, the locomotive number or, rather, on the redispatch study the locomotive type.

Q. Was one number employed to designate all of the locomotives used for the redispatched trains?

A. All the A.C-8's were referred to as 4100's. Helpers [fol. 2579] and other locomotives not of the A.C-8 type were indicated by their types but not by individual or specific numbers.

Q. Will you give me an example? Suppose that an F type locomotive was used, would some serial number be used to indicate it?

A. 3600.

Q. Or if a Mikado?

A. 3200.

Q. Were names of crews shown on the redispatch train sheets?

A. I don't know whether the chief dispatcher's breakdown showed crew names or not. They did keep crew books and whether as part of that bookkeeping they used names or numbers or letters, I cannot at the moment say. An inspection of the train sheets will indicate, however.

Q. Have you at your disposal all the train sheets?

A. Yes.

Q. Covering the redispatching study of 1938?

A. Yes, sir.

Q. As well as those covering the redispatching study of 1940 that you have referred to?

A. Yes.

Q. How did the chief dispatcher, Mr. Baker, handling [fol. 2580] the train sheets at Yuma, find out the consists of the trains or of the traffic to be moved from Yuma by the redispatched trains?

A. In mentioning the records, which we assembled at the beginning of the redischpatching study, I said that we had the conductors' wheel reports for the Los Angeles division trains entering Yuma. We took these wheel reports and analyzed them into half a dozen different groups to indicate the character of traffic in the cars. That analysis was made for every train entering Yuma from both the Indio line and also from the Imperial Valley. An individual—rather, a special work sheet was set up for that particular operation. That work sheet showed the train designation arriving and the arrival time of the train in addition to the consist of the arriving train, then loads that originated at Yuma, or company material such as oil and bridge material which doesn't move on through billing but which may appear for movement at any time at a terminal such as Yuma, were picked off of the switch list of the departing trains. In addition to that, we had the pull record, a book which is kept by the Yuma yard office, indicating the time when perishable loads are ready to move from Yuma. With all this information, Mr. Baker [fol. 2581] then knew what time the cars were available for movement east of Yuma, what time they had moved actually, and then he reassembled or reconstituted and redischpatched the business in his new long trains.

[fol. 2582] Q. Was it ever possible to take a train coming from the Los Angeles division into Yuma and move it on eastward into Yuma without change or substantial change of consist?

A. Yes, that was a frequent occurrence.

Q. How did you take care of traffic not moving through beyond points on the Tucson division?

A. As the traffic was picked off of the conductors' wheel reports for the trains actually operating between Yuma and Gila and Gila and Tucson, Tucson Lordsburg and Lordsburg to El Paso. The conductors' wheel reports show in each instance the destination of the cars that that conductor has handled. That called for another analysis to be made of the conductors' wheel reports and once again statements were made to indicate the short business which the chief dispatcher would have to provide for in redischpatching the long trains.

Q. Were you able to rearrange the train service given to those short loads, so-called, short cars?

A. Yes, that was concentrated as much as possible on one train instead of spreading it over several trains.

Q. Why would it be spread over several trains in actual [fol. 2583] handling and possibly concentrated in one train in redispach handling?

A. With a car limit we have to operate with the idea that business should move whenever the opportunity presents itself, whereas without the limit such compulsion is not as evident, we have an opportunity to let one train do the focal work to a greater extent than when there is a limit.

Q. What plan did you follow as to the picking up of business originating at points east of Yuma along the division?

A. There, again, the conductors' wheel reports of the trains actually operated were the sources of information to show the cars picked up enroute by the trains. This information was developed by the dispatcher or given to him by those assisting him and in reconstituting the day's business he would indicate on which trains he wanted the business picked up.

Q. What did the redispaching plan contemplate as to the provision of crews for trains in passing through such terminals as Gila and Lordsburg?

A. The redispaching plan contemplated that exactly the same problems would arise as those that occur in actual operation, that is, that it would be necessary to balance power and crews by double heading engines and dead-head- [fol. 2584] ing crews to the terminals where they were needed or from the terminals to which they had worked but where they were not needed.

Q. When does such dead-heading of crews and double heading of power occur in actual practice?

A. To give a simple illustration, if a chief dispatcher by means of his advance line-ups discovers that within any twenty-four hour period he is going to have five trains west from Gila and only four trains operating into Gila from the west, he knows that he will have to get an engine and a crew at Gila in order to take care of that fifth train back, otherwise he will be out of balance, so he will very often double-head an engine either on a freight train or on a passenger train over to Gila in order to get the engine and the engine crew over there and he will dead head a train crew either on a freight train or on a passenger train over to Gila so that it will be available for this fifth train.

Q. Why is it necessary to send crews to Gila?

Q. Gila is the away-from-home terminal for crews operating in the territory Yuma to Gila.

Q. Is it also the away-from-home terminal for crews operating out of Tucson to Gila?

[fol. 2585] A. That is right. This illustration which I have given would work in the same manner.

Q. Is there any pool or reservoir of trainmen and engine-men other than those who have come in on road trains maintained at Gila?

A. That is all.

Q. What is the situation at Lordsburg?

A. Lordsburg is the away-from-home terminal for crews operating out of Tucson and El Paso.

Q. If a conductor and the brakeman comprising the crew are moved dead-head, say, from Yuma to Gila to protect a westward movement, what about the caboose in which they travel? Is that traveled with them?

A. Yes, that will be sent over on a freight train so as to arrive in advance of their departure also.

Q. You spoke of double-heading locomotives. Is that the only method employed where necessary to get a locomotive to a division terminal to protect an oncoming train?

A. They can run light or with a caboose, with what is known as a "caboose hop," just an engine and caboose together.

Q. Do those instances appear on the train sheets covering actual operations during June and August, 1938, in [fol. 2586] stances of dead-heading crews or locomotives?

A. Yes, where the business was unbalanced and it was necessary to provide more crews in one direction than in another, the re-dispatching study shows that the chief dispatchers did double-head engines and dead-head crews.

Q. Was that the same general practice as is followed in actual operations?

A. Exactly the same.

The Court: Do I understand, Mr. Sines, when this extra engine is sent over to this terminal to take care of the balancing of this traffic, that the engineer and fireman do not ride that engine, that is just pulled as a car would be?

A. No, sir, the engineer and fireman operate the engine.

Q. It steams up?

A. Oh, yes.

Q. You really have two engines then on that train?

A. Yes, sir.

Q. You would still call that dead-heading?

A. No, that is double-heading. You only dead-head—

Q. (Interrupting) You have me confused, you spoke of [fol. 2587] sending the train crew over, as I understand it, on some passenger train or freight train and then getting their caboose and engine over there. I was a little confused on the movement of the engine itself.

A. You usually double-head an engine and that means that the engineer and fireman are on that engine and the engine operates to all intents and purposes as though it were pulling a train along.

Q. In other words, it aids in pulling that train?

A. Yes, sir.

Q. That is what you call double-heading?

A. Yes, sir, if it so happened, however, that there was an engine at Gila with no engine crew to run it we would dead-head an engine crew over on a freight or passenger train to operate the engine.

Q. And they would be paid wages from the time they left Tucson or Yuma as the case might be?

A. That is right. Those instances are less frequent than where you double-head the engine and engine crew together.

Mr. Mayon:

Q. The other confusion, I think, was the fact that you spoke of dead-heading the train crew. I take it when you referred to the train crew as distinguished from the engine [fol. 2588] crew you meant the conductor and brakeman?

A. Yes.

Q. They will move under pay but not on duty from their home terminal to the away-from-home terminal to undertake duty at the latter point?

A. That is right.

Q. And that is the example of dead-heading?

A. Yes.

The Court: Would it ever happen in your train movements that the engine might be moved from Tucson to the point that you indicate, Gila, without steam being up and without it aiding in pulling that train?



A. Not for the purposes we have indicated. That would be movement of a dead engine and in almost all instances it would be because the engine had something mechanically wrong with it.

Q. If you intended to use that engine at the point to which it was being taken, it would be sent over there as a live engine?

A. Under steam, yes, sir.

Mr. Mason:

Q. Mr. Sines, when an engine is double-headed in this way in order to get it to the away-from-home terminal for subsequent use in a train, is such an engine actually necessary to the operation of the train?

[fol. 2589] A. No.

Q. Is that rule again subject to some exception in some parts of the territory?

A. Yes, except in the helper territories.

The Court: There is a need for it in the helper territories?

A. Yes.

Q. In this other instance there is not a need?

A. That is right.

Mr. Mason:

Q. Will you illustrate the movement of an engine going to Lordsburg to be attached to a westbound train and which, in addition to the train engine of the eastbound train, Tucson to Lordsburg, the points at which it does necessary work, and the points at which it is an excess engine?

A. Let's say we have 70 cars with a Southern Pacific road engine accompanied by a Southern Pacific engine double-heading. Both of those engines would work at or near their full capacity between Tucson and Mesal.

The Court: Because that is an up-grade?

A. Yes. Going downhill from Mesal to Benson you would only need one engine to operate the train, although they would go down together. Going uphill from Benson to Dragoon both engines would be working at or near capacity. [fol. 2590] that would be helper territory, but from Dragoon I think into San Simon only one engine would be required. The double-header would assist the road engine from San

Simon to Steins in that helper territory and it would be unnecessary again from Steins to Lordsburg although it would of course accompany the road engine.

Mr. Mason:

Q. Is helper service regularly provided in those helper districts you have mentioned, Tucson, Mescal, Benson, Dragoon, and San Simon to Steins, where single-engine trains are operated over the balance of the district?

A. Yes, for the train I have described, 70 cars of perishable on a Southern Pacific engine, a helper would be provided.

The Court: You have no helper districts across the state of Arizona so far as passenger trains are concerned, of course?

A. No.

Q. But you do have regular helper districts that you have heretofore described across the state?

A. Yes.

Q. On freight operation?

A. Yes, I would like to make one more observation with [fol. 2591] respect to providing crews at away-from-home terminals. We have spoken up to now of providing an engine and crew to bring the train back, but we might have five trains eastbound to Gila and only four returning and in order to get that fifth crew back from Gila to Yuma, to its home terminal, we would dead-head that train crew and double-head that engine if necessary. It works both ways.

Mr. Mason: Why would you bring a train and engine crew back from the away-from-home terminal after they had taken a train there if there were no returning trains in sight for them? Why not leave them there until the train came along?

A. Because after the expiration of sixteen hours they go back on pay again, whether they are in service or not.

Q. What is that type of compensation called?

A. Held-away-from-home terminal time, and every twenty-four hours thereafter they get paid eight hours whether they work or not.

Q. Did you contemplate in the redispaching study that you would have to do some such dead-heading or double-heading as the case might be?

A. Yes; I heard the dispatchers talk about H. A. H. T. almost as frequently as I heard them talk about dead-head [fol. 2592] ing and double-heading.

Q. Was it part of your instructions that these particular features of the service should be given full contemplation in the redispatching study?

A. Yes, that should be handled in exactly the same manner as it is handled in actual operation.

The Court: Mr. Sines, if the railroad company were permitted longer train operation, speaking of freight trains, would it increase the length of your helper districts?

A. They would not change at all.

Q. That would remain constant?

A. Yes, sir.

Q. That is governed entirely, of course, by the grade; is it not, and the weight of the train?

A. Well, by the grade and by our contracts with the organizations which specify where we may have two engines operating without penalty payments to the train crews.

Mr. Mason:

Q. Mr. Sines, as between the operations with a fixed maximum limit of 70 cars and operations without any such fixed maximum limit, which leads to the greater lack of balance, greater unbalance of power and crews?

A. The limitation of 70 cars leads to the greater unbalance of power and crews.

[fol. 2593] Q. What is it that brings about an unbalance of power and crews?

A. The lack of flexibility which the law imposes on the operations; the arbitrary fixing of the number of trains which may be operated to handle a given amount of traffic.

The Court: You said "trains"; I take it you meant "cars"?

A. I don't think so. Will you read my answer?

(The last answer of the witness was read by the reporter.)

A. (Continuing): "Trains" in this way: Suppose we had 700 cars in one direction one day to be operated out of Tucson and we are operating with a 70-car limit. If we can put 70 cars in every one of those trains, we will operate ten trains. The law then fixes the number of trains we will

have to operate, but supposing that day that we had eight trains coming eastbound into Tucson, we had eight engines and crews available to take those trains west, we could divide the 700 by eight, get an average—

The Court (Interrupting): I see your point. There is no law that fixes the number of trains; it is an indirect effect you are referring to?

A. Yes, sir.

[fol. 2594] Mr. Mason:

Q. Does the unbalance of power arise because the movement of the cars in one direction is greater than the movement in the other?

A. Yes, sir.

Q. And because as you have illustrated in your answer to the question from the Court, in Arizona the cars must be subdivided into not less than one train for each 70 cars?

A. Yes, that is right.

Q. Is it possible if a fixed limit is not imposed to balance the trains in opposing directions even though there be an unbalance of cars in opposing directions?

A. Yes.

Q. Did your redispatching study contemplate that there would be a complete balancing of train-miles and trains in opposing directions or that you would have an unbalance of power and crews?

A. The balance of power and crews was much better in the redispatching study than it was in actual operation, but it was not perfect. We still had to dead-head crews and double-head engines to and from away-from-home terminals.

Q. Did you in the redispatching study contemplate that helper locomotives would be used in the present helper districts?

[fol. 2595] A. Yes.

Q. How did you determine the number of helper engines and helper crews to be assigned for such service?

A. There again the chief dispatchers worked in exactly the same manner that they do in actual operations and increased or decreased the number of engines and crews at helper stations in accordance with the demands of the traffic.

Q. By "demands of the traffic" you mean the volume of the trains operated?

A. The number of trains to be operated.

Q. Will you say whether or not in actual practice there are certain crews and certain locomotives definitely assigned to helper service at particular points?

A. There are.

Q. Where are they assigned? What is the character of the station at which the helper crew waits? Is it the station at the top of the grade or at the foot of the grade?

A. On the Tucson division it is the station at the foot of the grade.

Q. What are those particular stations on the Tucson division?

A. Gila, Tucson, and San Simon.

[fol. 2596] Q. How far do the helper crews stationed at Gila operate?

A. They run to Estrella; I think that is something like fifteen miles.

Q. What do they do then?

A. They detach their engine from the train and return to Gila.

[fol. 2597] Q. And how far do the helper crews and locomotives stationed at Tucson operate?

A. Helper crews operate out of Tucson as far as Dragoon, a distance of approximately seventy miles. At Dragoon they detach their engine and return to Tucson. Because of the Arizona Full Crew law, we are not permitted to run light engines a distance greater than 25 miles without providing a flagman, who, in effect, escorts the engine helper crews returning from Dragoon.

Mr. Strouss: I didn't know that law was being attacked.

Mr. Mason: No, it is not being attacked. It is only an explanation of the crews that we have.

The Witness (Continuing): Helper crews returning from Dragoon were either provided with flagmen at Benson to flag the light engine in from Benson to Tucson, or else they were coupled with westbound trains at Benson or Dragoon and operated into Tucson.

Q. Is that the same method that is used in actual operation?

A. Exactly.

Q. And you followed the same method in the redispatching study?

[fol. 2598] A. Yes.



The Court: Then, do I understand that each helper crew would manage its own engine; there would not be an exchange of men on a given engine in a given territory?

A. No, the same engineer and fireman would operate that engine from Tucson to Dragoon and back to Benson, where they might be—

The Court: Relieved?

The Witness: No, joined by the flagman who would escort them into Tucson.

The Court: I see.

Mr. Mason: Now, Mr. Sines, do the helper crews at points like Gila and San Simon ever make more than one helping trip during the course of a tour of duty?

A. Yes; in those districts which are relatively short, it is not unusual that one helper crew, consisting of an engineer and fireman, will help two trains from the bottom to the top of the hill and return, all within their eight-hour tour of duty.

Mr. Strouss: Did you give the distance that the helper crew at San Simon operates?

A. That is fourteen miles from San Simon to Steins.

[fol. 2599] Mr. Mason: What happens at Steins with the helper engine?

A. The helper engine is detached and returns alone to San Simon.

The Court: Then there are only three helper districts across the state on your lines?

A. Yes.

Mr. Mason: Are there other districts where helpers are provided for in the agreement; but not used in actual service?

A. That is right.

Q. Then the districts from Gila to Estrella, Tucson to Dragoon, and Steins to San Simon, are the helper districts in which helper locomotives are actually in use?

A. Yes, sir.

Q. Are there any westbound helper districts where helper locomotives are used?

A. Not where helper locomotives are used almost invariably to the same extent that they are eastbound. There are helper districts such as Benson to Mescal where, when

these eastward helpers couple into a westbound train, the helper engine assists the train engine going up the grade.

The Court: I believe you said, Mr. Sines, in response to [fol. 2600] a question from the Court a few moments ago, that even if you are permitted to haul longer trains, if this law, in other words, were not in force and effect, it wouldn't have the effect of increasing the number of your helper districts?

A. That is right. This operation that I spoke of at Benson, as being performed actually from Benson to Mescal, we also made provision for on our redispached trains; we didn't add any new districts.

Mr. Mason: Mr. Sines, I think the Court has in mind that the trains of 100 cars eastward or 125 westward would be substantially heavier, have more tonnage than the trains now being operated under the 70-car law. I will ask you whether the type of power that is contemplated in the redispaching study takes into account the operation of these heavier trains?

A. That is right. The road engine which we are providing would be increased in the same proportion, and the necessity for helping those trains would be no greater than the necessity for helping the trains actually operating.

Q. You spoke of westward helper districts. Have you in [fol. 2601] mind the district between Mondak and Steins, just over the New Mexico line, as an occasional helper district?

A. Yes, that is right, there is a four-mile pitch there where we can operate two engines, according to the agreement.

Q. Is there any in actual practice? Are helpers used there to any great extent?

A. No.

Q. Now, in the plan followed in the redispaching study, Mr. Sines, what particular instructions and methods were followed in determining the speed over the road of the redispached trains?

A. That determination was made by the trick dispatchers under supervision of the chief dispatchers and relied upon a comparison which was made between trains actually operated and trains which were operated on the redispaching study. The mechanics of making that comparison were as follows: In the column on the train sheet alongside of the column in which the redispached train was to be entered,

the trick dispatcher indicated or copied off of the conductor's delay report the progress of the train actually operated, showing the time of departure from the original terminal and the times at which the train arrived at intermediate stations, and, finally, his arrival at the final terminal. At the bottom of the sheet usually was indicated all of the notations which the conductor of the actual train had seen fit to make or which he made in accordance with instructions on the back of that delay report, so that the trick dispatcher was fully informed of all of the obstacles and delays which the actual train met in its operation from one terminal to the other; then, in the column for the redispatched train, the dispatcher worked that train across the railroad in accordance with the speeds made by the actual trains in accordance with the delays that the redispatched train ran into.

Q. You mean the redispatched train or the actual train?

A. Both the actual train and the redispatched train ran into in encountering the redispatched operation.

Q. I will ask you if each redispatched train was matched, so far as possible, with a train departing from the same terminal on the same day and at or near the same time?

A. Yes, that was done almost in all cases, in accordance with the designation of the actual and the redispatched train. For instance, Colton block No. 412, might have left [fol. 2603] Yuma at 6:00 A. M. some date. Our redispatched Colton block 412, probably left Yuma at six A. M., and thereafter, the running of the redispatched train was matched with the running of the actual train.

Q. Now, suppose, that Colton block 412 or the train in which Colton block 412 was carried, the actual train had run into an unfor-seen delay, for example, because of a grade crossing collision, would that unfor-seen delay have been reproduced in the running of the redispatched Colton block 412?

A. Yes.

Q. Suppose that the redispatched train, containing Colton block 412, had only seventy per cent of the engine rating of the AC locomotive handling it, whereas the actual train 412 had ninety per cent of the engine rating of the AC locomotive handling it, would you have made any difference in their speeds over the road and, if so, at what points or under what circumstances?

A. In that event, the redispached train, I call your attention to the fact that you have provided for a difference of twenty per cent.

Q. Yes.

A. The redispached train would have been permitted to make up a small amount of time on the ascending grades.

[fol. 2604] Q. Why would you have operated the redispached train on the ascending grades at greater speed than the actual train?

A. Because on level and descending grades both trains would have been able to operate up to the maximum allowable speed as permitted in the timetable and according to speed boards located alongside the track.

Q. But would the same condition prevail between two trains where the ratio of load to tonnage rating is different on ascending grade?

A. No, on ascending grades, the train with the heavier percentage of engine rating would run slower than the train with a lighter percentage of engine rating.

Q. Now, what method was followed in determining relative speeds of actual and redispached trains on ascending grades as between percentages of tonnage rating?

A. The train dispatchers performing the redispaching computed the tonnage of the train actually run and redispached, and where the redispached train was within ten per cent, either ten per cent over or ten per cent under, the percentage of tonnage to rating of the actual train, no variation was permitted in the running time between [fol. 2605] designated points, and by designated points I mean where there was no occasion to make any difference in the running of the dispatched train as compared with the actual train.

Q. You mean points designating the beginnings and ending of ascending grades?

A. Yes, that would be one way of choosing the points. Another way would be to say that nothing had occurred to the actual train between A and B, and nothing would occur to the redispached train between A and B, therefore, between those two points, as long as the percentage of tonnage to the rating was within ten per cent of each other, no allowance would be made in increasing the speed of the redispached train or slowing up the speed of the redispached train, because we ran these trains faster and

slower both; whichever way the percentages happened to work out.

Q. Now, where you found a difference in the ratio of tonnage to rating as between a redispached train and to the actual train with which it was matched, did you make a difference in time on the ascending grades, that is apart from unforeseen occurrences, or anything else, which might interfere with the progress of the train?

A. Yes. In all of the districts except that between Lordsburg and El Paso, where the difference exceeded ten per cent, we permitted trains to make up or lose as much as fifteen minutes in any train district. In the Lordsburg-El Paso district, the maximum to be made up or lost was somewhat greater than that, because of the physical characteristics of that district. Even there the chief dispatcher was working under a maximum which I do not at the moment recall.

Q. That will be developed in the testimony of that dispatcher?

A. Yes.

The Court: We will take our mid-afternoon recess at this time.

(Thereupon, a short recess was taken, after which the witness was recalled to the stand, and proceedings were resumed as follows:)

The Court: You may proceed.

Mr. Mason: Mr. Sines, in your testimony prior to the recess you spoke of the occasions when a train crew, consisting of the conductor and brakemen, have to be dead-headed either to or away from a home terminal, that the caboose also had to be handled to or from that point?

A. That is right.

Q. How is such a caboose ordinarily handled?

[fol. 2607] A. That is handled on a freight train.

Q. If handled on a freight train, is the deadhead caboose simply counted as a caboose or part of the 70-car consist permitted by the law?

A. Counted as one of the seventy cars permitted by the Arizona law.

Q. Does it displace a loaded car in that event?

A. It displaces a loaded car if occasion arises.



The Court: Does the conductor ride that caboose?

A. Not necessarily. The train crew is usually given the choice of riding a passenger train if a passenger train is available, or the caboose. If a passenger train isn't available, of course, the conductor and brakemen will ride the caboose; on the other hand, they generally ride the passenger train if the passenger train will get them over to the terminal in time to catch the run that they are called for.

Mr. Mason: Now, in the operation of the redispached trains, Mr. Sines, was any provision made for stops for inspection enroute between terminals?

A. Yes, provision was made for inspection stops in [fol. 2608] exactly the same manner that inspection stops were made during the actual operation of the trains.

Q. Suppose that the redispached train consisted of 95 cars, whereas the actual train with which it was matched consisted of less than 50 cars, would you allow the same time or more time for the inspection stop?

A. No, when the redispached train exceeded 90 cars in length, the inspection stop was increased from five to ten minutes in length.

Q. When you speak of these inspection stops, what character of inspections do you refer to?

A. Those are stops which are made by the trains for the purpose of permitting the train crew, that is, the conductor and brakemen, to walk around the train inspecting the wheels, running gear, brakes, in fact, the entire equipment, to make sure that it is in running condition.

Q. That is, the so-called train crew inspection, is it?

A. Yes.

Q. Are there other inspections made of cars and trains as they pass along the division?

A. Yes, all employees of the railroad who have occasion to work along the right-of-way or in stations, are instructed [fol. 2609] and they do watch the trains as they run by them. I am speaking particularly of the section forces. I used to work in the maintenance department and I have also observed station employees making the same kind of running inspection of trains as they go by them.

Q. Are there inspections made at terminals as trains stop or prior to their departure?

A. At terminals such as Gila and Lordsburg, a running inspection is given the departing trains by the train crews of those trains. At terminals such as Yuma, Tucson, and El Paso, inspections are made by car department inspection forces prior to the departure of the trains.

Q. Are those repairmen in the car repair department?

A. They are in the mechanical department and they are often referred to as car knockers. I think they are car repairmen.

Q. You have seen them making those inspections, have you, frequently?

A. Yes.

Q. Are similar inspections made at Douglas, if you recall, by car forces?

A. No, I don't know whether it is the train crew or car inspectors who take care of the trains in Douglas.

[fol. 2610] Q. In the redispatching study, did you contemplate any different character of inspections of the trains than those which were made of trains actually operated?

A. No, we contemplated that the redispatched trains would receive full and complete inspections the same as those accorded actual trains.

Q. And that the necessary time would be allowed for that purpose?

A. Yes.

Q. Now, in the operation of the redispatched trains, was any provision made for the meeting of opposing traffic, opposing trains?

A. Yes, redispatched trains took siding to meet redispatched trains and to meet other redispatched trains or to permit other redispatched trains to pass them also.

Q. How did you make allowances for time consumed in taking sidings or waiting for meets and passes, did you use any different method than is followed in actual practice?

A. No, the train dispatchers in handling the operation of trains from their dispatching office and in putting out orders, must estimate the length of time that will be required by trains to go into sidings to make these meets and get out again and proceed on their way. The train dispatchers handling the redispatching study had to perform the same mental calculations as when they were actually working a trick.

Q. And did they do so in redispatching the trains?

A. They did.

Q. What did the redispatching study contemplate as to the time of the redispatched trains through the intermediate terminals between Yuma and El Paso?

A. Time at intermediate terminals was determined from the amount of work or the operations which the redispatched trains had to perform in the intermediate terminals and was based upon the train dispatcher's and the chief dispatcher's knowledge of operating conditions.

The Court: You frequently used the term "trick dispatcher"; what did you mean by that?

A. In describing the party that performed this redispatching study with me, I mentioned two trick dispatchers who assisted the chief dispatchers. A chief dispatcher of a division concerns himself primarily with the calling of trains and ordering of engines and crews and getting [fol. 2612] the trains started from initial terminals. He indicates to the trick dispatchers, working under him, when he wants these trains to start, and thereafter it is the responsibility of the trick dispatchers to issue the necessary orders to get those trains started on the road, and to progress them across the division, meeting and passing other trains. The trick dispatchers then issue orders and make a running record of the progress of those trains as they go across a division, and as the trains are reported back to them on the telephone or by telegraph from the wayside stations.

Q. Is the trick dispatcher the man who sits at the telephone or telegraph key and actually records the movement of the trains and gives directions for their further movements?

A. Yes, and in our redispatching study, our chief dispatchers were concerned mostly with the consisting of the trains, the number of cars in the trains, the engines, that were provided for those trains, and the time of departure from the initial terminal, then the trick dispatchers worked those trains across a division on our redispatch train sheets.

Q. Did the trick dispatchers work closely with the chief dispatcher in carrying out this operation of the redispatched trains on the redispatch train sheets?

A. Oh, yes, that work was done under the direction and supervision of the chief dispatchers.

Q. And in their immediate presence?

A. Yes, we were all in one large office there in San Francisco when this job was being done.

Q. Was it all done under your immediate supervision, in accordance with the plan you have been outlining here?

A. That is right.

Q. Mr. Sines, do you know and, if so, will you state whether there is a difference as between engineers, individual engineers or individual conductors in the speed with which they will handle their trains and the facility with which they will perform their duties along the road?

A. That is right, there is a difference, depending upon the skill, training and experience of the engineers in the way in which they will handle the engines, and that is reflected in the speed of the trains and the ability of the trains and engines to get over the road. Then the work that is done at the local stations depends upon the conductor and brakeman who are going to do that work on the ground. Some crews will take longer to perform certain operations [fol. 2614] at stations than other crews.

Q. In the redispatching study, were you able to take into account any of these individual differences? If so, how was that accomplished?

A. Those individual differences were taken account of, but it was automatic, because as the redispatched train was matched with the actual train, the redispatched train's progress depended upon the actual train's progress. If it happened that the actual train had a skillful engineer, then the redispatched train would have a skillful engineer, or if the actual train had a less experienced train crew, our redispatched train would also be delayed in its station work to the same extent.

[fol. 2615] Mr. Mason: Mr. Sines, you said previously that the result of the redispatching study was to operate fewer trains than were actually operated?

A. Yes.

Q. Was that due to the redistribution of the same traffic into longer trains?

A. That is right.

Q. Did that result in the elimination of any of the actual trains?

A. Yes.

Q. Suppose that an actual train had suffered a delay en route because of having to flag a block, but in the redis-

patching study that actual train was eliminated. What did you do with the delay suffered by that train; did you forget about it?

A. No, that delay would then be assessed against a train of the same class operating at or about the same time. No delays of that character were eliminated by the redispatching study.

Q. Did any of the actual trains suffer delay because of a broken knuckle, do you recall any such instances?

A. I don't know whether we had any broken knuckles or not.

Q. Suppose one of your actual trains did suffer delay because of a broken knuckle, would that delay be assigned [fol. 2616] to a redispatched train and, if so, in what manner?

A. That would have been assigned to the redispatched train handling the equipment that the actual train handled.

Q. If it was C-413 that had a broken knuckle, which redispatched train would be assigned that?

A. C-413 would be assessed the delay.

Q. Did you for the purpose of the redispatching study contemplate having any additional train order offices over and above those which were open and available during June and August, 1938?

A. No.

Q. Did you contemplate having any fewer such train order offices?

A. No.

Q. I think you have stated that the redispatching train sheets were prepared for each day covered by the 1938 redispatching study?

A. That is right.

Q. Did you prepare a form of work sheet from the actual and redispatching train sheets?

A. We did.

Q. Have you a sample of the work sheets so prepared governing one particular district or day?

A. I have.

[fol. 2617] Q. Will you state what the title of this sheet is?

A. The title of this sheet is "Sample Copy of Work Sheet A (Page 167 of 1938 Redispatching Study)."

Mr. Mason: May we have this sheet marked for identification as "Defendant's Exhibit No. 198"?



The Court: It may be marked.

The Clerk: Defendant's exhibit No. 198 for identification.

Mr. Mason:

Q. Mr. Sims, is this defendant's exhibit No. 198 a sample of the work sheets used in the carrying on of the redispatching study?

A. Yes, this is an intermediate compilation sheet which stood in between the train sheets and the other sheets upon which our final answers appear and was used for consolidating the information both as to actual operation and redispatch operation.

Q. This is shown as page 167. How many work sheets of the same type as this were used for the purpose of the 1938 redispatching study or were compiled in that connection?

A. We used 848 work sheets A for the June and August freight redispatching study and we used 94 sheets for our 1938 passenger redispatching study.

Q. Is exhibit No. 198 for identification typical of the [Vol. 2618] 848 work sheets used in the freight redispatching study of 1938?

A. It is.

Q. From what sources was this work sheet actually prepared?

A. The information in the top half of the sheet headed "Actual" and down as far as the word "Total" is abstracted from the actual train sheets for the territory Tucson to Lordsburg for this particular sheet No. 167.

Q. And the balance of the information?

A. Was taken from the redispatch train sheets for the same territory.

Q. Does that include all the information on this sheet or only that information up to and including column 15?

A. That only includes information up to and including column 15 and for the actual train sheets the names of conductors and engineers were abstracted and placed in column 28.

Q. Does the information in column 28 also include the names of flagmen, if any are used?

A. Yes, the flagmen that I have described as operating between Tucson and Benson.

Q. Who placed the information shown in columns 0 to 15, inclusive, on work sheet A?

[fol. 2619] A. The trick dispatchers who were assisting the chief dispatcher in the redispatching study.

Q. Was this done under your immediate supervision?

A. Yes, we all took turns at entering and checking this information but the bulk of it was done as I have described by the trick dispatchers.

Q. Going to columns 16 to 27, inclusive, how was that information played on the sheet?

A. That information was furnished by the timekeeper, Mr. H. C. Garverick, whom I have mentioned before, who secured that particular data from the conductors' time returns and delay reports.

Q. Then the information shown in columns 16 to 27, inclusive, are the wages claimed or payable to the crews as shown on the time returns and delay reports?

A. The wages actually paid.

Q. You show here in column 16, basic train engine, and then show in column 17, variable amounts. What is the significance of those two terms?

A. For purposes of the redispatching study we had to analyze the wages of every one of those crews to make a separation between the basic amounts covering the payment of the crews because of their operation from the [fol. 2620] initial to the final terminal, which does not vary with the length of time or the service that is performed in either the initial or the final terminal. The variable amounts covered such items as overtime, if there was any, and service performed in the initial and final terminal which does not depend upon the operation of the train from the initial to the final terminal.

Q. Such payment as might be made, for example, for initial switching or terminal switching?

A. Yes.

Q. Would the variable amounts include any payment made because of local switching enroute?

A. Well, that would be reflected in the basic train wage in column 16 when the character of the service changes from through to local.

Q. Suppose that any of these crews became entitled to "held away from home terminal pay." Where would that appear?

A. That would appear in the variable column 17 for engineers and in column 24 for trainmen.

Q. Will you refer, please, to column 19 and explain what you mean by "helper engine attached and light" as applying to the wages shown there?

A. The first amount shown opposite Kennedy's name is for the movement of a helper engine 439 miles, indicated [fol. 2621] in column 8, the engine having been engine 3322. One hundred thirty-nine miles is the distance from Tucson to Dragoon and return and the amount shown in column 19 is the entire payment for that engine crew by reason of its service attached to a train going from Tucson to Dragoon and light returning from Dragoon back to Tucson. The next amount shown opposite Bagley's name indicates that it was paid for a trip of 30 miles by engine 3313. Thirty miles is the round-trip distance for a helper engine crew from San Simon to Steins and return to San Simon. Occasionally, well, it is not so occasionally either, it is quite frequently, helper engines would be coupled with west-bound trains at Benson to return to Tucson and in that event the operation of the eastbound train would be charged with the movement of the helper engine from Tucson to Dragoon and return to Benson and the balance of the payment to the engine crew would be charged against the operation of the westbound train from Benson into Tucson. That was the case with the third item in column 19, which is shown one line below, engine 3202, engineer Wheeler.

Q. What is the significance of the initials in parenthesis following Mr. Wheeler's name there?

[fol. 2622] A. Those are the telegraph call letters for stations which are printed on the train sheets and which chief dispatchers and trick dispatchers use as kind of a shorthand in indicating the names of the stations.

Q. Does UN mean a particular station?

A. UN means Tucson; DR means Dragoon; and B means Benson; meaning that engine 3202 negotiated 91 miles with engineer Wheeler from Tucson to Dragoon and return to Benson and they were paid the amount shown in column 19 therefor.

Q. What about the information shown in columns 9 to 15, inclusive, of the redispatched portion of exhibit No. 198 for identification, from what source was that taken?

A. That information was abstracted from the redispatched train sheets.

Q. You show, for example, under the heading (4), "Train Engine Number," 4100. What does that signify?

A. That signifies that an engine of the 4100 class AC-8 was used to operate on the redispached train.

Q. You show in column 7, "Helper Engine No." a single number 5000. What does that mean?

A. That an engine of the 5000 class, that is S. P. 1, 2, [fol. 2623] or 3, was used as a helper to help the redispached train between the stations indicated, the first one, Tucson, Dragoon, and back to Benson.

Q. You show in that same column for two redispached trains the word "single." What does that mean?

A. These particular trains operated the entire trip from Tucson to Lordsburg without the assistance of helpers either out of Tucson or San Simon.

Q. When you get over to the wage columns, 16 to 27, inclusive, there is certain information on the sheet. Where was that taken from?

A. Those are the basic wages which I have previously described which can be determined in accordance with the contracts with the employees applying against these particular train and engine movements.

Q. These redispached movements?

A. Redispached movements and were placed there by our timekeeper, Mr. Garverick.

Q. Why is the amount shown for the movement, for example, the first item under "redispated," you show the basic train engine wages as a certain figure. Why is that amount larger than the basic train engine wages for the first movement of the actual train?

[fol. 2624] A. Because the engine men are paid in accordance with the weight on drivers on the locomotives.

Q. Is the 4100 class locomotive heavier on drivers than the 5000 class?

A. Yes.

Q. As shown on Mr. Russell's exhibit No. 5?

A. Yes, sir.

Q. You show no variable amounts for wages of engine men or trainmen for the redispached trains. What is the explanation?

A. They were handled in another manner in a lump sum calculation which will appear on a subsequent exhibit.

Q. Do you have the other 942 sheets which relate to the 1938 freight and passenger redispated study?

A. Yes, we have them in our office across the street.

Q. Will they be available for the study of opposing counsel?

A. They will.

Q. Will the redispatch and actual train sheets which you have mentioned as a source of white work sheets, such as exhibit No. 198 for identification, also be available for the study of opposing counsel if they desire?

[fol. 2625] A. Yes, sir.

Q. Do you also have the time returns and delay reports which were used in making up these white work sheets?

A. Yes.

Q. Are they likewise available?

A. Yes, all of the basic documents covering the actual operations as well as the work sheets in connection with our redispatch operations we intend to make available to opposing counsel.

Q. I don't know if I have mentioned it, but I suppose that you have the original train sheets, the dispatchers' train sheets?

A. Yes, they are here in Tucson also.

Q. I take it that the purpose of this exhibit is to indicate the method employed in one of the steps in developing the redispatching study rather than to portray the information as to this particular day and district?

A. That is right, this is merely to demonstrate the mechanics of making this redispatching study and to indicate my part in it and also the part of the other members of the party of course.

Mr. Mason: Do you have any questions, Mr. Strauss?

Mr. Strauss: This doesn't show any place on it, does it, [fol. 2626] the tonnage which was included in any train?

A. No.

Q. That would be a rather important thing to know in knowing how your train was to be handled, wouldn't it?

A. That is right. That information is shown on the original train sheet and on the redispatch train sheet and is one detail that I haven't discussed here completely although it seems to me I did mention it. The first thing that the trick dispatcher did after he was notified by the chief dispatcher of the consist of the redispatched trains was to compute the tonnage of the redispatched trains and the actual trains and to enter it on those redispatch train sheets at the head of those columns in order that he might



determine what the per cent relationship was, both of the actual train and the redispached train, of tonnage to engine rating. It could have been put on here, but it would have been so much extra work and wouldn't have served any particular service in further compilation. That item, however, was one of the very important considerations in connection with this redispaching study.

Mr. Mason:

Q. Do I understand that the tonnage handled in the [fol. 2627] various trains was not a necessary item in the particular step undertaken by the work sheets, of which this is one of the steps?

A. That is right. At the time the white work sheet was drawn off we had progressed beyond the tonnage stage. From that point on we were making a record of the movement and were trying to get train-miles, locomotive-miles; and money.

Mr. Strouss: You are a little ahead of time on this exhibit then.

A. I don't follow you there.

Mr. Strouss: It has to assume that the train sheets of the assumed operation are correct, that the tonnage which is not shown here could be handled in the way you have indicated on here.

A. I don't know that I will agree with you in your choice of the word "assumed." I have spent a couple of hours here describing the mechanics of this redispaching study. There isn't very much assumption about it. The chief dispatchers and the trick dispatchers knew what they were doing every minute.

Mr. Mason: I think what Mr. Strouss means is this, that the white work sheet was drawn off after the operation had been completed.

A. I will agree with that.

[fol. 2628] Mr. Mason: And was a step after the operation had been completed, isn't that what you had in mind, Mr. Strouss?

Mr. Strouss: Yes, but in order to show the data that you do here you do assume that the redispached tonnage could be handled as shown on the redispached train sheets without showing the tonnage here.

A. Subject to my qualification of the word "assumed" I will agree with you.

Mr. Mason:

Q. This represents that the tonnage has actually been handled in these redispatch trains, does it not?

A. As far as I am concerned it has, yes.

The Court: Putting it another way, in the upper block there, which I understand represents the actual train movements, you have there, I don't know just how many more but a few more trains than what you show on your redispatch movements below?

A. That is right.

The Court: But all of the traffic, if I may use that broad term, reflected in the upper block has been moved in this theoretical movement of your redispatch in the lower block?

A. That, generally, is a true statement, yes, sir.

[Vol. 2629] Mr. Strouss: What do you mean by "generally"?

A. Because if you look at the tables in column 12 you will find that the total loaded cars was 546 actual and 584 redispatch. From one end of the month to the other end of the month we had moved the same volume of business but within any twenty-four hours we would not necessarily move the same volume.

Mr. Mason: Does that mean that some business which was moved actually in the twenty-four hours, midnight to midnight, June 18, may have been moved slightly before midnight of June 17-18 and redispatched?

A. Yes.

Q. Or the opposite; it may have moved after midnight on June 19, for example?

A. That is the idea.

Mr. Strouss: I noticed a little while ago you testified concerning numbers as identifying classes of engines used on the redispatch. Did you identify all the different classes of locomotives used?

A. On our redispatch train sheets?

Mr. Strouss: Yes.

A. Yes, sir.

Mr. Strouss: You did?

A. Yes.

[fol. 2630] Mr. Mason: What did you have in mind, Mr. Strouss? I think he identified the 4100's as the train engine class which was contemplated by the redispached plan.

Mr. Strouss: I didn't understand at the time he was giving them all. I thought he was giving typical examples; I didn't take them down but I can get them from the transcript. These numbers would mean something to me.

Mr. Mason: I think I can develop that a little bit but in order that the record may be clear, Mr. Sines, what type of locomotive was contemplated to be used as to train locomotive on your redispach trains between Yuma and El Paso?

A. AC-S.

Q. What does the number 4100 indicate?

A. AC-S locomotives.

Q. You didn't assume any particular AC-S locomotives, did you?

A. No.

Q. But just that you would have a group of AC-S locomotives otherwise called "4100" class locomotives?

A. Yes.

Q. Your previous testimony did not mention it but you show here the use of 5000 class locomotives as helpers?

[fol. 2631] A. Yes.

Q. Was that a part of the redispatching plan that the S. P. type or 5000 class locomotive would be used in helper service?

A. Yes.

Mr. Mason: Does that make it clear to you now, Mr. Strouss?

Mr. Strouss: Yes. Are the tonnage ratings of those locomotives shown on your timetables for this division?

A. All except the AC-S, that is not shown on the tonnage rating tables of the Tucson or Rio Grande divisions for these districts. Generally, however, the tonnage rating of the AC-S is 165 per cent of the rating of an F-4 locomotive, within two or three per cent one way or the other.

Mr. Strouss: Of an F-4?

A. Of an F-4. I can give you that rating over the ruling grades either now or later on.

[fol. 2632] Mr. Mason: I was going to develop that anyway, but I think we have an exhibit which is pending here.

not introduced, and if you have no more questions on the exhibit, Mr. Strouss—

Mr. Strouss: No.

Mr. Mason: Has your Honor any questions?

The Court: No.

Mr. Mason: We offer the exhibit in evidence as Defendant's No. 198.

Mr. Strouss: I object to it as irrelevant and immaterial, calling for the opinion and conclusion of the witness, and speculative.

The Court: I will hear you, Mr. Mason, on that objection. The court doesn't know, of course, just how far you intend to pursue this line. Up to date we have dealt with actualities; now we are getting over into the realm, as I take it, of what the Southern Pacific would have done had they not been confronted with the Arizona law, how they would have handled this traffic, which is purely theoretical.

Mr. Mason: Not entirely theoretical; it is no more theoretical, your Honor, than, for example, would be the plans of an architect who had built a building, who had drawn the plans and had a building constructed, let us say, eight [fol. 2633] stories high, if he were suddenly confronted with an ordinance that the building must not be more than six stories high, that it must have the same floor space and accommodate the same number of tenants as previously accommodated. Now, in order to resist that ordinance, if you like, it might be necessary to show how the building would have to be constructed and cut down in order to meet the terms of the ordinance, and what the cost would be, and how the operation, if it were undertaken, could be undertaken. Here we have the architects, or their counterparts in the chief dispatchers and trick dispatchers who actually run the trains subject to the 70-car limit, and its extra-territorial effect over the district covered by the redispatching study. We have the same men undertaking to run the same traffic over the same territory, in the same period, and under the same conditions, except as those conditions would be changed by the elimination of the 70-car restriction. Perhaps my illustration of the imposition of a new restriction is the reverse of what we have here. Here we have produced an architect who has previously been faced with a six-story limit and who is now called upon to prepare the plans for an eight-story building because the [fol. 2634] restriction has been lifted and who wants to

show that it is practicable to build an eight-story building. He therefore prepares the plans and shows what those plans would be. We have nothing different here.

I want to call to your Honor's attention that in the first Arizona train limit case, as a reference to the opinion will show, a redispatching study was presented. It was presented by Mr. Andrus. I am not referring to the Santa Fe redispatching study presented by a gentleman from that railroad. Mr. Andrus of our railroad presented a redispatching study as applied to certain traffic in 1927, I think it was. The evidence was received in 1930—Mr. Strous may correct me if my memory is a little hazy—Mr. Andrus presented such a study, and it formed the foundation for many of the conclusions and findings of the court and it is mentioned in the opinion. When we came to the Nevada train limit case, we were, of course, faced there with the imposition of a new restriction upon operations hitherto unrestricted. We then presented—and your Honor has been furnished with a copy of the findings—a redispatching study, and the findings of the court which relate directly to that redispatching study and the results of the redispatching study, as indicating the burden upon the commerce handled across Nevada and the delays imposed upon that commerce, and the added expense which the law would impose, are all predicated upon the redispatching study which was introduced in the Nevada case. I may say, by Mr. Sines and the train dispatchers who worked with him and developed them. I had intended to develop by Mr. Sines that the redispatching studies here were developed largely as they were in the Nevada case. The use of redispatching studies in a train limit case of this kind is certainly proper, in the opinion of the courts which have considered the matter is to be taken as any guide, and particularly if their reliance upon the redispatching studies is to be taken as any guide. I would like to refer your Honor particularly to finding No. 17 in the Nevada Case which appears on Page 30 of the print, and which reads as follows: If I may impose upon you by quoting it. It is headed "17. Effect of the Train Limit Law upon Plaintiff's Operations. The Redispatching Study."

"To determine the effect of the Train Limit Law upon its operations, plaintiff conducted a study of the trains and traffic handled over its Nevada lines during the months [fol. 2636] of February and October, 1934." I interpolate



to say that this case was heard commencing in 1935, and that the evidence with respect to the redispatching study was introduced during September and October of that year. Continuing the quotation: "The two months selected were typical and representative of the year 1934. February was the month of the lightest traffic volume and October the month of heaviest traffic volume. The volume of the traffic handled in the two months taken together constituted slightly less than one-sixth (15.709 per cent) of the total for the entire year. The study of railroad operations thus made is referred to herein as 'The Redispatching Study,'" those three words being in quotations. "This study involved a detailed analysis of each of the freight trains actually operated by plaintiff over Nevada lines as to consists, speed, and other essential features of its operation; and the complete rearrangement, into "redispatched" trains, of the cars and traffic actually moved, so as to conform the plaintiff's operations for the purpose of the study, to the conditions which would be created and compelled, if the law were enforced.

[fol. 2637] "In making said study it was assumed that all the conditions which actually prevailed upon said lines during the two months mentioned would have continued to prevail, except to the extent that the limitations imposed by the law would have required modifications of plaintiff's operating methods, and certain changes in the types of locomotives used. The redispatching study was carefully conducted under the direct supervision of experienced and qualified operating and executive officers of the plaintiff, by chief train dispatchers who now and for many years past, have supervised the operation and movement of plaintiff's trains on the Nevada lines. The result of this study presents as accurate a determination as possible of the effects of the law, in the following particulars: (1) in requiring additional train service to be operated by plaintiff on the Nevada lines; (2) in creating or aggravating delays to and interference with plaintiff's trains and cars and the traffic transported therein; and (3) in imposing additional expense upon plaintiff's operations."

That is substantially all of the finding in Paragraph No. 17. There are additional findings which go into the detail [fol. 2638] as shown by the redispatching study, referring to the additional train mileage made, the extra territorial effect of the law as shown by the redispatching study, de-

lays at intermediate points, delays enroute, operation of additional trains, and reduction of train lengths, and financial burdens, all of which of course were dependent upon and directly related to the redispatching study and shows the result of it. Now, in the present case, we simply have the counterpart of the Nevada situation. In place of re-consisting or recasting the operations, so as to meet the conditions as affected by the limitation of the law, we recast them so as to meet the conditions which would prevail if the limitations of the law were removed; and, just as changes in the locomotives would be required for the short train operation in Nevada, so changes in the locomotives would be required for the longer trains operated in Arizona, and that change is part and parcel, as Mr. Sines stated in his testimony, of the redispatching operation. But in essence this redispatching study is just like the one in Nevada, carefully conducted and, paraphrasing from the language of the Court, "under the direct supervision of experienced and qualified operating and executive officers of the plaintiff, by chief train dispatchers who now [fol. 2639] and for many years past, have supervised the operation and movement of plaintiff's trains on the Arizona lines as affected by the Arizona Train Limit Law. It seems to us that by no other method could be as accurate a determination of the effect of the law, as alleged in paragraph 3 of our affirmative answer, be determined. Even if you were to operate trains in defiance of the law and risk the penalties, you would not get a complete answer because you would have to redispatch the long trains that you had operated into shorter trains in order to determine just how much you had saved by your long train operation. Furthermore, a long train operation in defiance of the law, let us say for a test month, would require the transfer of locomotives, would require the lengthening of sidings, would require therefore a very heavy investment. We can achieve the same result by comparing redispatched operation with the use of these new locomotives and with the use of long sidings, and compare it with what actually transpired, and obtain the results just as accurately as though we had violated the law and operated such trains. I will say, by reference to the exhibit received, No. 196, that we have a redispatching study based upon a period in April, [fol. 2640] 1940; when trains were operated without regard to the law, but at that time we didn't have long sidings.

which are part and parcel of the 1938 redispatching study; and we didn't have the AC power. We didn't use the AC power; we used the same locomotives for those long trains during April, 1940, that we used before and have used since for the shorter trains, but we have in this 1940 redispatching study a showing of the saving effected by that period.

The Court: Do I understand that during the month of April, the Southern Pacific Company operated their trains as though the law was not on the books?

Mr. Mason: For a period of twenty-seven days we operated approximately 300 trains, which did not comply with the provisions of the Arizona Law.

The Court: Both freight and passenger?

Mr. Mason: No, the passenger train operation was for a period of nearly two months; the freight train operation began on April 4th, I believe, and ended, I believe, on April 30th.

The Court: Then, does this study involve actual operations? What I am driving at is this, this statement as to the freight traffic, you say you did actually operate for a month or more?

[fol. 2641] Mr. Mason: Yes, 27 days freight train operation.

The Court: As though the law were not on the books?

Mr. Mason: Not entirely as though the law were not on the books. If the law were not on the books, of course, we would have undertaken siding extensions and transfer of power; we didn't do that.

The Court: You didn't transfer your heavier locomotives here?

Mr. Mason: No.

The Court: And made no improvement in your sidings?

Mr. Mason: No.

The Court: And no improvements in the roundhouses?

Mr. Mason: No. We have a redispatching study separate and apart from the one that Mr. Sines has been testifying to so far, which takes the trains as operated in 1940, and then redispatches those trains to the shorter length which would have been operated if the law had been fully observed; and then we have a redispatching study which takes those trains as operated and redispatches that traffic into trains which would have been operated if longer sidings and heavier locomotives had been available.

The Court: Go ahead, Mr. Strouss.

Mr. Strouss: I have a long distance call that came about a half an hour ago.

(Thereupon, Mr. Strouss left the court room, and proceedings were suspended until his return.)

The Court: Well, Mr. Mason, before you continue with your presentation of this matter, maybe if the court asked two or three questions I might indicate what is in my mind. Of course, you will keep in mind, gentlemen, that while you have been through the mill before, this type of case, this is a case of first impression with the Court. I wish you would indicate just briefly and generally just the scope that you intend to cover with this. I am also concerned with whether you propose to put on the witness stand here the dispatchers and others who participated in this conference, in this study which took weeks and months. Now, Mr. Sines here has very frankly stated as he has testified, he would very frequently say, well, we did that and we decided that, and so on. Now, this study here, is it his conclusion or is it the conclusion of the group who conducted the redispatching study?

[fol. 2643] Mr. Mason: I think we are perhaps getting a little ahead of our story in discussing the admissibility of the redispatching studies at this time. Now, to answer your question, we do intend to call the chief train dispatchers. We intend to call four chief train dispatchers who participated in this study, particularly the chief dispatchers who successively occupied that position on the Tneson and the Rio Grande divisions. We have only had the subject presented by Mr. Sines initially, because he was the man in charge. Perhaps I should have identified him as the man in charge of the Nevada studies as well, so as to qualify him as a man of experience. We intend to call the chief dispatchers. Now, going to this exhibit, this exhibit after all is part and parcel of the description of the method which has been given here orally in very large part and, as your Honor will recall, without any running objection or any objection at all; and the objection occurs only when the exhibit is offered, although its purpose was stated to be illustrative of method, rather than an attempt to show actual results, particularly for the 18th day of June, 1938, on this particular district.

The Court: Then it is merely an illustration.  
 [fol. 2644] Mr. Mason: This is a short cut. By verbal testimony it could be done in the same way, but it would take an enormously long time to put this in by question and answer when it can be so quickly done by an exhibit. So as to this exhibit, when we argue the admissibility of the redispatching study, we are getting a little ahead of the story. The argument should come after the chief dispatchers and the timekeeper have testified.

The Court: Mr. Strouss, you have made this objection. The Court will hear you if you care to be heard.

Mr. Strouss: I want to deny that the oral testimony that has gone in is without objection. With what is contained in here, all that has been testified to so far are the headings of the different subject matters of the exhibit.

Mr. Mason: I didn't mean that. I meant as to the methods followed in the redispatching study. Up to the point where we struck Exhibit 198, Mr. Sines had testified at considerable length in that regard, and, as I understand, without objection. This is nothing but an exemplification of methods followed.

The Court: The contents of this particular exhibit in all this is relatively unimportant, it is a matter of the [fol. 2645] system used to illustrate the manner in which this redispatching study was conducted.

Mr. Strouss: At the same time, it puts in evidence for this 12-hour period their redispatching of the trains. Now, while it may be put in only for the purpose of illustrating the method of doing the work, it has more than that in it. It is what Mr. Sines testified that the actual train sheet for that 12-hour period contained, and what they did in the redispatching for that period.

The Court: Well, Mr. Strouss, even though it may be premature, it is evident that the Court is going to be confronted with this testimony and is going to have to rule on the matter. What is your view and attitude toward a redispatching study?

Mr. Strouss: I am coming to that.

The Court: All right.

Mr. Strouss: There are one or two other things I want to say ahead of that. The Arizona case of ten years ago is referred to again, and I again want to say to the Court that it is beyond me to see any rule of evidence in that



case. Now, the master in that case stated—and if counsel doesn't agree with me, I will be glad to bring the transcript [fol. 2646] scripts here, I have them in my room, to read a statement of the master at the very beginning that whenever an objection was made that he was not going to rule on any objection, he would admit all evidence and have the matter later determined by the Court. Now, it never was determined by the Court. There was an ex-parte hearing in San Francisco, which the Company's attorneys attended, and the attorneys for the State did not attend, and which the Supreme Court later said was not a hearing later. Certainly, that opinion cannot be cited as any rule of law. Now, in the Nevada case, so far as I have been able to determine from this opinion and reading the record, the objections I have made here were not made in that case; certainly, there is no ruling upon it in this opinion, findings of fact, or conclusions of the Court. Now, this exhibit, as Mr. Sines has testified, the dispatchers after a conference decided upon this redispersing of trains. In the other case it was called the "assumed operation," and I beg your pardon for using that here.

The Court: I would say it was at least a reshuffling.

Mr. Strouss: But the actual operation of these trains, the dispatcher as the traffic comes up has to move the [fol. 2647] traffic along, and these trains were operated in a twelve-hour period as shown, and over the two months, twenty-four hours each day for the two months' period. Then we have a gathering here in conferences which lasts from May to September to work out what they figured they would have done had the law not been in effect. Now, that to me is purely speculative, purely opinion testimony by employees and officers of the defendant company here testifying as to a situation which did not exist as to what their opinion would have been if it had existed. That, I think, is not competent evidence.

Mr. Mason: Well, your Honor, I can only say as to the Arizona decision, that though the Supreme Court may have said that the decision was a mistake, nevertheless, the opinion has been published, and referred to with approval by at least one other three-judge court. Certainly, there is no fault to be found in the finality of the Nevada Train Limit Law case. Opposing counsel perhaps has the record in the Nevada case. Somewhat the same objection was

there made by the defendant attorney general, and what I have heard today is a faithful echo of that objection. There is nothing speculative, of course, about the redispaching of trains by experienced train dispatchers. In [fol. 2648] fact, they have to figure in advance what they are going to do with trains before they operate, otherwise the trains would get out on blind sidings and try to get around each other. They have to plan about the traffic before a train ever moves.

The Court: That is what happened at Dragoon the other night when I went home, it was held up about twenty minutes.

Mr. Mason: And it sometimes happens when a dispatcher overlooks his hand. He has to plan his work before the train ever moves and to speculate, if that is the proper word; anyway, he figures on what he is going to do. With a known condition confronting him, and with conditions as they existed tabulated for the purpose of his studies, there is no more speculation about the redispaching of the trains than there was about the dispatching of those trains in the first instance, perhaps somewhat less. In the redispaching he knows what difficulties he is going to encounter, while in the original dispatching he has to somewhat guess at that. It is opinion testimony based upon studies made by experts, by the men best qualified by experience by actual handling to express that opinion.

The Court: Mr. Mason, the thing that seems a little odd [fol. 2649] to the Court, I confess I don't see how you could avoid it in this type of study, but here is a group of men, of experts, who spend months making a certain study, each of them a specialist in his own field. Now, you call Mr. Sines as your first witness. Of course, you can't do this all at once, I recognize that; then he proceeds to give to the Court not only his opinion but the combined opinion of the experts there assembled.

Mr. Mason: Your Honor, he hasn't testified that is, not except perhaps as incidental, and then certainly not with the idea that it should intentionally appear; it is simply as to the methods which he and the members of the party undertook to use.

The Court: I think he is surely qualified as to the results, he got down to that more than once this afternoon, that he could handle that traffic with fewer trains and less expense.

Mr. Mason: I don't think he has testified as to expense. We will show the exact figures. I think that the conclusion is obvious that you could handle the traffic with less trains if you were not faced with a limit law. That is the expression of the expert; but it is also the opinion, the expression [fol. 2650] of the people who passed this law in the first place. They wanted more trains.

The Court: Other than the two cases you have cited, have counsel any authority on the matter of this study being admitted to prove a certain point, to illustrate it, and that evidence may be introduced as a result of that study. The Court will be at recess until ten o'clock tomorrow morning, at which time I will rule on the objection.

Mr. Mason: Of course, Your Honor will understand we do not intend merely to present some final figures and say, "We made a study and this is it." We will present each of the men who made the study to explain his methods. We will present all of the steps by which the result was achieved, and we will present to the opposition all of the train sheets, actual and redispached, all of the work sheets of which the exhibit before you is merely an example, all of the other material mentioned by Mr. Sines in his testimony as having been used, so that they may, if they wish, go through the same process that we did or so much of it as they like, and find out whether we have done our work honestly and well.

The Court: There is one other comment I will make, and I am through. Of course, up to date, while this record [fol. 2631] is replete with figures and statistics, we have dealt in actualities, they are figures taken from your books, records and reports. Now, it seems to me that we might go far afield if we encumber this record with a lot of data, statistical and otherwise, as to what might have been done if the law had not been in existence. In other words, the reshuffling of these trains and their operation. While in one sense your comparison of the architect's problem is a good one, as a matter of fact, in this instance these trains were not operated under the reshuffling arrangement of your redispaching study; it is the opinion of these skilled men that had they had a free hand here is what they could have done. Now, is that proper; that is the question.

(Thereupon, the court stood at recess until Wednesday, January 22, 1941, at ten o'clock A. M.)

[fol. 2652]

January 1941, Ten o'clock A. M.

Proceedings were resumed at this time as follows:

Mr. Mason: Your Honor, the question before us, at the adjournment last night, the specific question before us was as to the admissibility of Exhibit 198, the objection being that it was an expression of an opinion and conclusion of the witness. Now, perhaps Exhibit 198 in so far as it does show the results of the actual redispatching for June 18th between Tucson and Lordsburg eastward is an expression of results, and the witness who actually did the redispatching has not yet testified; so that the offer is premature in that respect. However, it wasn't offered, as I explained at the time, for the purpose of showing results, and that is entirely incidental. It is for the purpose of showing methods, and is merely an example of thousands of these work sheets that were used in the course of this redispatching operation. Perhaps, in order to obviate the objection at this time, it would be well to withhold for the time being the actual offer of the exhibit in evidence. It has been offered for identification, and when Mr. Baker, who was in 1938 and 1939 the chief train dispatcher of the Tucson division, has [fol. 2653] testified, then it will be appropriate to offer the exhibit as an expression of what he did.

The Court: I think it is premature at this time.

Mr. Mason: After the dispatchers have testified there will be before the Court a fuller explanation of what they themselves did in the redispatching study. So far, we have attempted to confine Mr. Sines' testimony to the matter of method and what the man in charge of the redispatching studies asked the dispatchers to do.

The Court: You may proceed.

Mr. Mason: We have prepared, along the lines suggested in your Honor's last statement recorded at the end of yesterday's proceedings, a brief memorandum of some authorities, text-book authorities.

The Court: Mr. Thompson handed that to me.

Mr. Mason: A copy has also been handed to the opposing counsel. In addition, I believe certain case citations have been made available.

The Court: You may proceed.

Mr. Thompson: I will furnish those to Mr. Strauss also.

[fol. 1654] B. S. SINES, resumed the witness stand for further.

Direct examination (Continued).

By Mr. Mason:

Q. Will you refer to exhibit No. 196, please, Mr. Sines?

A. Yes.

Q. I believe that so far your discussion has mainly directed itself to item No. 1, the freight redispaching study for 1938 covering the months of June and August of that year on the principal main line via Gila and Lordsburg, is that correct?

A. That is right.

Q. Was there also made under your supervision a passenger redispaching study for the year 1938?

A. Yes.

Q. What territory did that cover?

A. From Los Angeles, California, to El Paso, Texas.

Q. What dispatchers participated in the making of that study?

A. Chief dispatcher Day of the Los Angeles division, chief dispatcher Cassidy of the Tucson division, and chief dispatcher Berrell of the Rio Grande division.

[fol. 2055] Q. Did you follow substantially the same methods in the passenger redispaching study for the year as in the freight redispaching study for the two months' period?

A. The preliminary examination of the trains actually operated was as thorough with respect to passenger trains as it was with respect to freight trains. Thereafter, however, the mechanics of performing the redispaching study differed, and we set out only those operations which would have been changed by reason of elimination of the 14-car provision of the Arizona law.

Q. Was it necessary to make any change in the locomotives used to handle the trains, the type of locomotives?

A. No, the passenger locomotive assignment was the same under the redispaching study as it was under actual operation.

Q. Were any alterations or extensions of sidings contemplated as being essential to the passenger study?

A. That was not involved.

Q. Were any passenger trains eliminated from consideration for the purposes of the redispaching study?



A. As I indicated, the preliminary examination em-  
[fol. 2656] braced every passenger train and second and  
extra sections that were run during the year 1938 to de-  
termine primarily whether or not any second or extra sec-  
tions could have been eliminated. Having determined  
which section or extra sections might have been eliminated,  
further study was made to determine what the operations  
would have been if the extra or additional section had not  
been operated.

Q. That represents the extent of the passenger redis-  
patching study, does it?

A. That is right.

Q. Was it necessary to operate the redispatched pas-  
senger trains with the same detail on redispatch train sheets  
as in the case of the freight redispatching study?

A. No, that was not done either. The work was car-  
ried forward to the white work sheet A, the form similar  
to the exhibit No. 198 for identification.

Q. You show as item No. 3 of the studies undertaken  
and listed on exhibit No. 196 an analysis of passenger opera-  
tions for the year 1938. Will you explain, generally, just  
what this analysis consisted of and how it was undertaken?

A. Yes. In order to comply with the provisions of the  
[fol. 2657] 14-car limit for passenger trains in Arizona, it is  
frequently necessary to perform switching which otherwise  
would not be performed at such terminals as El Paso, Tucs-  
son, Phoenix, Yuma, and Los Angeles. We examined the  
records to locate instances where such switching had been  
performed and where it would not have been necessary had  
there not been the 14-car limit and wrote complete histories  
of those instances and then analyzed and classified those in-  
stances and have set them out in an exhibit.

Q. This was not in the nature of an operation of the same  
trains or the same traffic in reconstituted trains in lieu of  
those actually operated, was it, this particular analysis?

A. It involved that consideration also because very often  
switching had been performed at Yuma which would have  
been unnecessary had the trains been permitted to run  
through Arizona with a consist in excess of 14 cars.

Q. Who performed this work of analysis of passenger  
operation, item No. 3 of exhibit No. 196, in addition to your-  
self?

A. One of the trick dispatchers assigned to the redispatching party and the chief dispatchers of the three divisions who also performed the passenger redispatch study [fol. 2658] listed here as item No. 2.

Q. Was this analysis undertaken at the same time or during the same working period of 1939 which you have previously mentioned as being used for the freight redispatching study?

A. Yes, it was.

Q. You show as item No. 4 a freight redispatching study, Phoenix to Tucson, month of December, 1938. Was that performed under your jurisdiction and supervision?

A. It was.

Q. By whom was that performed?

A. Chief dispatcher Cassady of the Tucson division.

Q. What was the reason for selecting the month of December, 1938?

A. That is the month when the perishable business is at its peak in the Phoenix territory and when trains of more than 70 cars could advantageously be run between Phoenix and Tucson.

Q. Was the redispatching study of the Phoenix-Tucson line undertaken along the same lines and along the same general principles as the freight redispatching study, item No. 1 of exhibit No. 196?

A. It was, although there again it was not necessary to [fol. 2659] set up the redispatched operations on redispatch train sheets. There were only one or, at the most, two trains involved in each direction in any one day, and the work was carried forward directly on to the white work sheet A.

[fol. 2660] Q. Now, will you please refer to Item 5?

A. Yes.

Q. I note that the period referred to is April 4th to April 30th, 1940. Why was that period selected?

A. That was the period when the Company disregarded the 70-car provisions of the Arizona Train Limit Law.

Q. As to freight trains?

A. As to freight trains, yes.

Q. And what operations were compared, what was undertaken in the redispatching study, Item 5?

A. We endeavored there to ascertain what the savings had been to the Southern Pacific Company by reason of its

long-train operation, and in order to do that it was necessary to recast the business or redispach it in short trains to find out how many more train miles and locomotive miles would have been required to handle the same amount of business if it had been handled in the shorter trains.

Q. Did you make any assumption or differentiation as to the character of the locomotives used in your redispached trains as compared with the actual trains operated during the period April 4th to 30th, 1940?

[fol. 2661] A. No.

Q. Did you make any assumption as to siding lengths, any changes in siding lengths?

A. No.

Q. Did you make any assumption as to change of conditions other than the assumption that for the purpose of the redispaching study the 70-car law would be observed instead of being disregarded?

A. That was the only consideration.

Q. What plan was followed with respect to the operation of your redispached short trains of 1940 as to time through terminals?

A. The trains were dispatched from the initial terminals at the same times as the trains had operated actually; times through intermediate terminals depended upon the amount of work to be done on the trains in accordance with the experience and judgment of the dispatchers that were handling the redispaching study.

Q. By the way, what dispatchers handled the redispaching study for the 1940, particularly Item 5?

A. Chief Dispatcher Cassady of the Tucson Division, and Chief Dispatcher Herrell of the Rio Grand Division.

Q. Were they assisted by trick dispatchers?

[fol. 2662] A. They were.

Q. Did you otherwise follow the same outline of principles and procedure that you have presented in detail with respect to Item 1 of exhibit No. 196?

A. Quite generally, with this exception that whereas in 1938 the dispatchers had matched the operation of the redispached train with an actual train on the basis of percentage of tonnage to rating of locomotive, the dispatchers didn't do this in the short trains redispached for 1940, but set up the time of dispatching between terminals and points on the railroad in accordance with the performance of

trains as they had observed them for the past ten or fifteen years in actual operation.

Q. Were there any other differences between the manner in which the redispatching study, Item 5, was conducted, and the manner in which the redispatching study of 1938, Item 1, was conducted?

A. None of any moment, that I can recall now.

Q. You show here as Item 6 a further redispatching study relating to the operation between April 4th and April 30, 1940. Will you state just what the redispatching study thus undertaken was?

[fol. 2663] A. Yes. As a result of the redispatching study indicated in Item 5, it was apparent that the limitation placed on the long-train operation during the period April 4th to April 30th by reason of the fact that sidings were still short and that the power that we had then was not capable of handling complete long train operations, it was apparent that the railroad had not benefited to the full extent that would be possible had the Arizona Train Limit Law been set aside and had we entered a full long-train program.

Mr. Strouss: I move that that be stricken, Your Honor, that is a conclusion of the witness.

The Court: That is as to the fact that they were not—

Mr. Strouss: Whether they had been fully benefited or not.

Mr. Mason: Your Honor, I submit that the witness is an expert who has made a study and who is expressing results which were apparent to him from that study, and he has carefully described the study. Now, he is also merely laying the foundation or stating the reason for the further study that was made.

The Court: The motion to strike will be denied.

[fol. 2664] A. We undertook still another study of the business handled in April, 1940, once more to determine what we could have done with an AC-8 locomotive as the principal road locomotive, and with sidings extended as we had contemplated extension for the June-August, 1938, redispatch.

Q. Did you, for the purposes of your study, identified as Item 6 of Exhibit 196, contemplate the same siding extensions which are shown as contemplated on Exhibit 197?

A. Yes.

Q. And did you contemplate the use of AC-S power as the principal type of road locomotive?

A. Yes.

Q. On the entire division?

A. Yes.

Q. On the entire district, I should say.

A. Between Yuma and El Paso.

Q. By whom was the actual redispatching under Item 6 performed?

A. By Chief Dispatcher Cassady of the Tucson division, and Chief Dispatcher Herrell of the Rio Grande division, assisted by two trick dispatchers. The makeup of the party was the same in our 1940 study as it was in the 1938 study.

Q. With the exception of Mr. Baker?

[fol. 2665] A. Yes.

Q. Now, when were the two 1940 studies conducted?

A. From July 15, 1940 to about November 15, 1940.

Q. Did you follow the same plan of making the study as you have described for Item 1?

A. Yes.

Q. As to the matter of time between terminals, meets, passes, assignment of delays, and so forth, were there any differences in principle observed as between Item No. 6 and Item No. 1?

A. None at all.

Mr. Mason: Your Honor, at this time I will ask permission to withdraw Mr. Sines. He will return to the stand, of course, in order to present, after the dispatchers have testified, the results of the redispatching study. However, if Mr. Strauss desires to cross-examine him at this time on what has been presented so far, of course he is tendered for cross-examination.

Mr. Strauss: No.

The Court: You may withdraw the witness.

Mr. Mason: There is one other question I perhaps should ask him before he leaves the stand at this time.

[fol. 2666] Q. Was the south line between El Paso and Tucson via Douglas included in the redispatching study for 1940, or either of the redispatching studies for 1940?

A. No.



Mr. Mason: That is all at this time.

The Court: The operations from Yuma to Phoenix were not included either, were they?

A. No.

Q. But there is the one study made of the operations from Phoenix to Tucson?

A. For 1938, yes.

The Court: Call your next witness.

Mr. Mason: We will ask Mr. Baker to resume the stand. [fol. 2667]. Mr. Mason: Your Honor, it occurs to me that I promised last night to qualify Mr. Sines as having supervised and participated in the Nevada Train Limit case redispatching study. I don't suppose there is any doubt in the mind of Mr. Strouss that that is a fact.

Mr. Strouss: I read quite a few pages of record that were under his name.

Mr. Mason: Perhaps without his resuming the witness chair I can ask him now before Mr. Baker testifies as to his participation.

The Court: You may do so.

Mr. Mason: Mr. Sines, will you state whether or not you participated in the Nevada Train Limit case?

A. I did.

Q. Was a redispatching study made for the purpose of the Nevada Train Limit case?

Mr. Strouss: I object to this as immaterial.

The Court: Objection overruled.

A. There was.

Mr. Mason:

Q. Under whose immediate supervision was that study conducted?

A. My own.

Mr. Strouss: My objection goes to all of this.

The Court: Yes.

[fol. 2668] Mr. Mason: It is understood that it does.

Q. Did you assemble a party for the purposes of making that study?

A. Yes, we had a party there that consisted of the chief dispatcher of the Sacramento division—

The Court: (Interrupting) Mr. Mason, I don't think it is necessary that we go into great detail on that. The witness has testified that he did make such a study or it was done under his direction, and I presume, Mr. Sines, it was carried out very similarly to your study that was made here in this case?

A. Very much.

Mr. Mason:

Q. Did you follow substantially the same methods and principles in the Nevada study that you have described as having been followed in connection with the Arizona studies?

A. Yes, the principal difference there being that we were redispatching long trains into short trains.

Q. Whereas in the present case with one exception you were redispatching short trains into long ones?

A. Yes.

Q. I take it, then, that the redispatching study, No. 5 of your exhibit No. 196, was a redispatching study very [fol. 2669] similar to the one undertaken in Nevada?

A. That is right, it was a counterpart of that study.

Mr. Mason: I think that is all.

(Witness excused.)

G. C. BAKER was recalled as a witness in behalf of the defendant and having been previously sworn testified further as follows:

Direct examination (Continued).

By Mr. Mason:

Q. Mr. Baker, you have previously stated that you were a dispatcher and subsequently chief dispatcher on the Tucson division?

A. Yes.

Q. You have also had experience as the agent at Yuma?

A. Yes, sir.

Q. And as a dispatcher at El Paso on the Rio Grande division?

A. Yes.

Q. Will you describe the primary duties of the chief dispatcher of a division or district?

[fol. 2670] A. The chief dispatcher arranges for and supervises the movements of trains over the division of which he has jurisdiction; provides the necessary crews and power at various terminals and helper stations to protect the movement of trains; supervises the work of train dispatchers, telegraphers, station agents, and arranges with the yard masters at the various terminals as to the amount on tonnage and class of power to be furnished each train and also watches the time of livestock in transit in compliance with the Federal law; also provides for the picking up of loads and empties at intermediate points and the distribution of empty cars to protect the requirements of the shippers; watches very closely the schedules of the various freight and passenger trains in order that the schedules will be maintained or recover as much time as possible under existing conditions, such as weather conditions, track conditions, tonnage being handled, and so forth.

Q. Does he supervise directly the work of the train dispatchers?

A. Yes.

Q. You heard the testimony of Mr. Sines yesterday as to the work performed by trick dispatchers, did you?

[fol. 2671] A. Yes, sir.

Q. Are the trick dispatchers immediately under the jurisdiction and direct supervision of the chief train dispatcher?

A. Yes, sir.

Q. Mr. Baker, is it necessary to make separate provision day by day for the crews and locomotives to handle passenger trains?

A. No, not the regular passenger train crews; the crews are regularly assigned for those particular runs; trains that operate every day.

Q. Where extra passenger trains are to be operated, what does the chief train dispatcher do?

A. It is necessary then to provide the proper power and crews for those extra trains.

Q. Turning to freight trains, are main line through freight trains operated with the same regularity as passenger trains?

A. No, their departure from the terminal is governed to a large extent by the amount of tonnage that is available to move received from the connecting divisions and also as a

rule in handling unidentified trains, such as drags and empty reefers, the chief dispatcher generally lines up that operation to fit in with the opposing movement in order that he may protect his power and crew

[fol. 2672] Q. Does the amount of traffic to be moved have any effect upon the number of freight trains to be operated?

A. Yes.

Q. Does the number of freight trains operated on the division fluctuate from day to day?

A. Yes, it does.

Q. And the number operated out of a particular terminal in a particular direction may fluctuate from day to day?

A. Yes, sir.

Q. For example, in determining the number of freight trains to be operated eastward out of Yuma on a particular day what special considerations govern?

A. We receive advance line-ups or flashes at Yuma in this particular case from the chief dispatcher at Los Angeles and we then arrange to reconstitute the trains in order that the number of cars may be moved in the least number of units possible and the train is lined up out of Yuma in order that they may take care of any short traffic to be picked up between terminals.

Q. In lining up your trains to be moved out of Yuma, do you have in mind schedule or time requirements on the eastbound traffic?

[fol. 2673] A. Yes, the schedule is the main requirement with identified freight trains.

Q. Do similar considerations govern as to the trains operated westward out of Lordsburg?

A. Yes.

Q. In originating trains at Tucson either eastward or westward, what do you have in mind?

A. We have to give the same consideration as to how the trains are on schedule and the power available and whatever work there is to be performed on the line in the picking up and setting out of traffic at intermediate stations.

Q. Do you obtain in advance information from the Los Angeles division?

A. Yes.

Q. How far in advance of the arrival of the traffic at Yuma does your information usually reach you?

A. Our first information giving a tentative line-up is received from sixteen to eighteen hours in advance of the actual arrival of the train at Yuma.

Q. What does that advance information include, what information as to the trains or the traffic?

A. It generally gives the identification of the train and [fol. 2674] the approximate arrival of the train at Yuma.

Q. Do you receive similar advance information from the Rio Grande division?

A. Yes, sir.

Q. How far in advance of arrival at Lordsburg do you generally get that information?

A. Approximately the same time, sixteen to eighteen hours, our first information.

Q. Do you receive any supplementary information from those divisions?

A. Yes, these line-up are supplemented from time to time in order that after the trains have actually departed from El Paso or Los Angeles and Colton we will know the actual number of units that are to be received at those points, either at Yuma or at Lordsburg.

Q. Do the yard masters at points such as Colton where trains are made up give you any information?

A. Yes, as soon as the eastward perishable trains leave Colton, we are furnished with the information as to the number of perishable, manifest, dead loads, and empties that are in that train leaving Colton.

Q. How far in advance of arrival of the Colton blocks at [fol. 2675] Yuma would the information from the Colton yard master reach you?

A. Approximately nine to ten hours, sometimes twelve hours in advance.

Q. Does the yard master at Yuma send out advance information after trains have arrived or trains have been made up at Yuma?

A. Only the consist. When the train departs from Yuma, the information is given to the truck dispatcher by the operator at the Yuma yard, showing the time that the train departs from Yuma. However, the information as to what the train consists of, there is a detailed consist filed by the yard master and transmitted immediately upon departure of the train.

Q. To whom is that transmitted?



A. The chief dispatcher at Tucson and the chief dispatcher at El Paso.

Q. That is flashed ahead to El Paso?

A. Yes, sir.

Q. Is a similar advance flashed of the consist of the train as it departs made up at Tucson and sent on ahead of the train to El Paso?

A. Yes, as soon as the train departs from Tucson, then a detailed consist is filed by the yard master at Tucson addressed to the yard master at Lordsburg and the chief dispatcher and yard master at El Paso.

Q. Is similar advance information given by yard masters, for example, at El Paso covering the movement of westward trains?

A. Yes, sir.

Q. What use does the chief train dispatcher, and yourself as chief train dispatcher particularly, make of this advance information?

A. Well, I use these consists to plan my operations for the day, that is, of the traffic that is to be received, taking into consideration at Yuma, for example, the number of cars which I am permitted to handle or the class of power that I have and the tonnage which that certain type of power could handle and the number of loads that I may have to pick up at intermediate stations in order that the proper number of cars may be ordered on these trains out of their various terminals.

Q. Are there any away-from-home terminals for train and engine service employees on the Tucson division?

A. Yes, the away-from-home terminal for the crews operating east out of Yuma is Gila and Gila is also the away-from-home terminal for the crews operating westward from Tucson. Lordsburg is the away-from-home terminal for the crews operating eastward from Tucson.

Q. Do you have to make provision for crews to be present at those points in order to move trains which change crews there?

A. Yes, I have to make arrangements well in advance in order that the proper power and crews will be available at these away-from-home terminals to protect the traffic moving.

Q. Do you maintain a pool or reserve of locomotives at Gila and Lordsburg?

A. No, we occasionally may have what we call a "drop-back" engine in order to expedite the movement of trains through those terminals.

Q. You don't maintain any substantial number of locomotives there to protect the movement?

A. No, it is merely a protection engine.

Q. How do you arrange to have crews and locomotives available at those away-from-home terminals to handle the movement of trains?

A. The number of crews required is determined by these advance line-ups that we receive from the connecting divisions and then we see the number of trains that we have to operate westward, the number of trains that we have to protect eastbound. I am talking about Gila now, and unless the power and crews will balance at those points it is necessary in order to get power to double-head the train and dead-head the crews to Gila in order to balance the unbalanced trains.

[fol. 2679] Q. Do you have to take these steps, or double-head and deadhead, in other words, in getting the engines and crews to Gila substantially in advance of the arrival of trains?

A. Yes, in case of our train crews, it is necessary that they arrive at the outside terminals in time that they may be fully rested in accordance with the Federal law or local agreements with the brotherhoods.

Q. About how much time in advance do you have to make arrangements for the departure of crews from the home terminal in order to protect an unbalanced movement?

A. Well, it depends on the districts, the district or the away-from-home terminal at Yuma, it is necessary that we know at least from 12 to 16 hours in advance of the requirements at that point in order to get the crews there so they will get the proper rest.

Q. Suppose you have to move crews and power to Lordsburg, what advance notice do you have to have?

A. Well, at least 20 hours.

Q. Does it ever happen that there are more trains moving westward to Gila than are moving eastward from Gila?

A. Yes, that is the case quite often.

[fol. 2680] Q. What happens to the surplus locomotives and surplus crews in that case?

A. Well, then we are required to doublehead the surplus locomotives back east and deadhead the surplus crews back to their home terminal at Tucson.

Q. Do you move the engines back coupled to another train when you speak of doubleheading?

A. We do unless the tonnage in the train exceeds the rating of the heaviest locomotive, then we are required to run the engine light, except over the helper district between Gila to Estrella, we can couple them in there without penalty.

Q. You run the engine light. Does that mean without any cars?

A. Yes.

Q. You speak of deadheading crews. Are crews and cabooses particularly assigned one to the other?

A. Yes.

Q. When you deadhead a train crew as distinguished from the engine crew, do you also deadhead a caboose?

A. Yes.

Q. Now, what happens if a train and engine crew is held at Gila without any work to do because of having gone there [fol. 2681] with a train and finding no train on which to return for service?

A. Well, unless the service is not required, why, we deadhead them back. However, there are times when we have no way to deadhead the crew back, or it may be that we may wish to hold this crew at Gila an excessive length of time to avoid the deadheading of another crew from Tucson. However, when that is done and the crew is at Gila, is away from home-terminal more than 16 hours, then he starts drawing pay and he draws eight hours' pay in every 24 hours after that he is held at that away-from-home terminal.

Q. And what do you call that type of compensation?

A. Held away from home terminal.

Q. What are some of the circumstances that lead to an unbalance of trains in opposite directions over the Tucson division?

A. Well, the perishable movement, or shortly after the perishable movement commences there is a heavy return movement of empty refrigerator cars westward, which return through the Tucuman and El Paso Gateway and which it is necessary for us to work as far north as up in

the Santa Maria Valley and San Joaquin Valley, and also [fol. 2682] take care of the requirements in the Salt River Valley, Yuma Valley and Imperial Valley, and the number of cars operating westward is much in excess of the eastward movement, which causes an unbalance of train-miles.

Q. Why does it cause an unbalance of train-miles? Why not make the westward trains longer than the eastward trains?

A. Well, we are restricted to seventy cars through Arizona under the Arizona law.

Q. Is there any preference as to movement of trains over the division as between particular types or kinds of trains?

A. Yes, passenger trains are given first preference. They have preference to freight trains and our west manifest trains, which are on a very fast schedule, are usually given preference over our perishable trains, and, of course, perishable trains are given preference over drag or freight trains of less importance, in which no schedule is required to be made.

Q. Does the chief dispatcher have anything to do with the designation of preferences as between trains?

A. Yes, he generally issues necessary instructions, or, however, the dispatchers know generally the class of trains [fol. 2683] which is to be given preference and handles his trains accordingly over the road in order that the preferred train will receive the best possible handling.

Q. Now, I think you stated initially that the chief dispatcher supervises the movement of trains. Who actually issues the orders for the movement of trains out of terminals and over the road?

A. The trick dispatchers.

Q. And what is the primary problem of the chief dispatcher and the trick dispatcher with reference to the movement of trains?

A. Well, the principal problem is to move the trains over the dispatcher's district or the district in which he is handling the trains in the manner in which delays for meeting and passing will be at a minimum, and keep his passenger trains on time, on schedule, or handle them in a manner so that they will recover it if they are late, giving freight trains the benefit of any late time that the passenger trains may be operating. In fact, the idea is to get the trains off the district as quick as he can so that he won't be bothered with them; that is the idea.

Q. On a railroad such as the Tucson Division, I take it that the big problem in getting the trains off the division [fol. 2684] is getting them by each other?

A. That is correct.

Q. Is the problem of meets and passes one of the principal problems facing the dispatcher operating the trains?

A. Yes, that is his chief problem.

Q. Is that problem simplified or rendered more complicated if more trains are operated?

A. Well, the more trains that are operated, why, the problem of the trick dispatcher is very much multiplied, more meets and more passes, why, his work is multiplied to that extent.

Q. Is there always a trick dispatcher on duty at division headquarters?

A. At all times, yes.

The Court: We will take our morning recess at this time.

(Thereupon, a short recess was taken, after which the witness was recalled to the stand, and proceedings were resumed as follows.)

The Court: You may proceed.

Mr. Strouss: If you want to put in the record now—

Mr. Mason: With respect to Exhibit 13. Your Honor, as a result of discussion with Mr. Strouss, during the inter-[fol. 2685] mission, we have reached an understanding with respect to Exhibit No. 13. Your Honor will recall that that was introduced by General Manager Wright of the New York Central, and at the time the train sheets were not available. We have made arrangements to have the train sheets brought here by Mr. Wright, by another witness equally qualified, but now Mr. Strouss states that he is willing to waive the production of the train sheets, and so far as his objection to No. 13 was predicated upon the failure to produce the underlying records, that objection may be considered withdrawn.

Mr. Strouss: Yes.

The Court: Then you are re-offering the exhibit?

Mr. Mason: Yes. It has previously been received, but your Honor indicated some doubt as to the propriety of the ruling first made. That ruling, I take it, may now stand as to the objection to competency. The objection as to materiality and relevancy is not withdrawn, I understand.



The Court: That completes them, does it not?

Mr. Mason: I believe that completes all the exhibits so far tendered along this line.

Q. Mr. Baker, are the train sheets made up under the [fol. 2686] supervision of the chief train dispatcher?

A. No, that is the duty of the trick dispatchers. I understand you mean the heading up of the train sheets?

Q. What I mean is this, this is one of the duties of the trick dispatchers, is it?

A. Yes.

Q. And is performed by them at the office of the chief dispatcher and trick dispatcher?

A. Yes, sir.

Q. Like their other duties, is it performed under the supervision of the chief dispatcher?

A. Yes.

Q. Is the chief dispatcher familiar with the train sheets of his division?

A. Yes, that is where the chief dispatcher gets his information as to the number of cars that he is operating and also the condition of the train, that is, with respect to schedules, the tonnage, and so forth.

Q. Does the chief dispatcher make regular and daily use of the entries on the train sheets?

A. Yes, he refers to that many times during his tour of duty.

Q. And the train sheets are kept in the chief dispatcher's [fol. 2687] office, are they?

A. Yes.

Q. How many train sheets are there for each district for each 24-hour period?

A. There is one train sheet for each 24-hour period for each district worked. However, there is occasion when a trick dispatcher may have two train sheets to work with, due to the length of his district or it may be necessary that two train sheets be provided.

Q. There will be a train sheet for each portion of the district which he is working?

A. Yes.

Q. Now, what entries are particularly recorded on the train sheets?

A. Well, the sheets are headed up, first it shows the train number, and then it is followed with the conductor, the

engine crew, and the engine number, and then the first entry, of course, is the time of departure at initial station, showing the number of cars and tonnage which the train has leaving that point.

Q. Is that detail recorded for each train operating over the district?

A. Yes, every train must be recorded on the train sheet, every movement.

[fol. 2688] Q. Now, are the times at other stations recorded to show the progress of the train?

A. At all open telegraph offices where the train is reported the time is reported on the train sheet.

Q. Do you show the identification of the train as well as its number, if there be a separate identification?

A. Yes, we show for instance, in the case of a perishable train, the identity of the train.

Q. Suppose a train leaves the terminal tonight, let us say, at eight o'clock, where is the movement of that train carried if it continues on the district after twelve midnight?

A. It is continued on that same sheet through to its destination.

Q. Then, after midnight there might be two train sheets before the same truck dispatcher covering the same district?

A. Yes, sometimes four train sheets, he may have to work with four train sheets.

Q. That is where he has two separate districts covered by two separate train sheets?

A. Yes.

Q. Does the train sheet show the time that it arrives at its final terminal?

[fol. 2689] A. Yes.

Q. Suppose a second locomotive is attached to the train, does that information appear on the train sheet?

A. Yes, all that information is carried on the train sheet, and shows what particular train it is attached to. There is a column provided for that purpose on the train sheet.

Q. Are light engine movements shown on the train sheet?

A. Yes.

Q. Do you show any of the details of the consists of freight trains on the train sheets?

A. No, nothing other than the table of loads and empties and their tonnage.

Q. Do you show distribution as between perishables, manifests, and livestock?

A. No, not on the train sheets.

Q. Do you show any classification as between company materials and other non-revenue freight and revenue freight?

A. No.

Q. Do you show any of the car numbers?

A. No.

Q. How does the dispatcher obtain the information as to the time that the train arrives at or departs from intermediate stations along the route

A. We have progress of the train reported by station agents or telegraphers at various points along the line.

Q. Now, how does the dispatcher arrange for changes in the movement of a particular train, or instructions as to its movement?

A. By the use of train orders.

Q. How does he get those train orders to the train?

A. They are transmitted to operators at various points along the line and addressed to the conductor and the engineer of the train to which the instruction refers, and in case of a train stopping they are generally delivered to the train conductor. However, at points at which trains do not stop, they are handled by means of a train order hoop, one order being delivered to the engine crew and one to the train crew on the caboose.

Q. Train orders are delivered in that manner to the engine and caboose of the train for the engineer and conductor both?

A. Yes.

Q. Is that done without the necessity of the train stopping?

A. Oh, yes.

Q. How does the agent or operator advise the train that orders are on hand for that train?

A. Well, that is done by means of a train order signal or semaphore. When there are no orders for a train after a train reaches a point close to the train order office, if there are no orders or instructions for this train, the semaphore signal is put in a proceed position.

Q. That is with the arm down?

A. With the arm down; and if there are train orders or instructions for the train, the signal is left in a stop position.

tion, or horizontal position. Then before a train can pass a train order office with the train order board in a stop position, it is necessary that they proceed to clearance, as we call it. On that board, it may not contain orders but it is necessary that he obtain a clearance from the operator on duty, which carries the signature of the chief train dispatcher, that they have or have not orders for this train unless he obtains this clearance.

Q. Can he obtain that clearance by having the orders handed up to him by the hoop?

A. Yes.

[fol. 2692] Q. Then he doesn't actually have to stop because the train order board is in the stop position?

A. No, as long as he receives a clearance permitting him to pass the train order signal.

The Court: But if there was any slip-up, and the train is in motion, the agent or operator there at the station failed to connect with him and give him his orders, then he would have to immediately stop?

A. Yes, he has to stop and back up and receive the clearance on the train-order sheets.

[fol. 2693] Q. By "slip-up," for example, would be where the hoop was missed?

A. The hoop was missed or the operator at the back end didn't hear the train coming or something.

Q. You have heard the expression and I think you have used the expression "drags" or for unidentified trains. What does the term "drag" mean?

A. "Drag" generally is referred to as a train that does not carry an identifying symbol, such as manifest trains, Colton fruit block. It generally consists of dead freight, company material, company oil, empties; it is an unidentified train is what it is and they are referred to as "drags."

The Court: All other trains would be given the right of way over this "drag"?

A. Yes, sir.

Mr. Mason:

Q. When a train is given preference over another train, the two moving in the opposite direction, what actually happens at the meeting point?

A. The inferior train, it is necessary for the inferior train to take siding. The superiority of trains is determined in several different ways, one is by timetable schedule or special instructions in the timetable over train orders.

Q. The chief dispatcher working through the track dispatcher [fol. 2694] can establish the superiority?

A. Yes, you can reverse the superiority of any train.

Q. Can you give a perishable or manifest train the right to hold the main line as against a drag or unidentified train?

A. They generally do. You can by train order give a freight train, establish a freight train and make him superior to the passenger train or any other train on the road by train order.

Q. Is it part of your duty as chief train dispatcher to be familiar with the physical characteristics of the lines subject to your jurisdiction?

A. Yes, that is very necessary.

Q. Precisely what do you mean by the term "physical characteristics," or, in other words, with what physical characteristics are you particularly familiar?

A. It is necessary that we be familiar with the grade conditions, curvatures, side track capacities, location of train order offices, location of signal maintainers, section forces, bridge forces, location of our wrecker or relief outfits.

Q. Do you have to know where double track begins and ends?

[fol. 2695] A. Yes, sir.

Q. Do you have to know the mileage between stations?

A. Yes, sir.

Q. The location of junction points and the mileages to and from them?

A. That is right.

Q. Do you have to know anything about the ability of locomotives to handle tonnage over various parts of the line?

A. Yes, we have to be familiar with the tonnage rating of all locomotives.

Q. Do you have to be familiar with their ability as related to particular portions of the line?

A. Yes, sir.

Q. You spoke in your previous testimony the fact that you receive advance line-ups several hours in advance of



the actual arrival of the trains at the terminals of the division and that you do know in advance in order to make provision for crews at away-from-home terminals. I will ask you whether as chief dispatcher or as supervisor of the work of the trick dispatchers you make in advance plans otherwise for the handling of traffic over the division? [fol. 2696] A. Yes, in this way. At Tucson we have shops maintained by the Pacific Fruit Express in which we store a large number of reefers and we operate these empty refrigerator trains out of Tucson westward at an hour which will best fit in with the eastbound operations. Of course, those are trains which are not included on any line-ups received from any connecting division.

Q. Speaking of the line-ups, do you use this line-up from connecting divisions for any purpose in planning your day or do you simply let the trains go without any particular plan for the day?

A. No, we use those line-ups to plan our operations for the day, for the next twenty-four or forty-eight hours as far as that is concerned.

Q. Do you plan ahead as far as twenty-four or forty-eight hours for train movement on your division?

A. Yes, sometimes as much as three days in advance you have to plan your operations.

Q. Having planned your operations in advance, does that plan stand without any change?

A. No, that is changing constantly all the time.

Q. What is it that causes it to make changes?

A. Several things can cause a train to be delayed, such [fol. 2697] as washouts, derailments, or other unforeseen operating delays, or it may be that the traffic that the connecting chief dispatcher had in mind did not materialize due to weather conditions or they couldn't harvest their crops, such as lettuce and other commodities. Innumerable things can enter into the change in the original line-up.

Q. When these changed conditions arise, you have to meet them, do you?

A. Yes.

Q. What do you do with your contemplated plan of operation?

A. We have to change it to conform with the latest line-up. It may be that we have to dead-head crews or double-head power to away-from-home terminals and it

may be necessary in order to avoid heavy penalties to probably return the same crews at times.

Q. Without any work for them to do?

A. Yes.

Q. You heard the testimony of Mr. Sines as to the redispatching study of 1938, item No. 1 of his exhibit No. 196?

A. Yes, sir.

Q. Do you recall his having mentioned your name as one [fol. 2698] of the party participating in the study?

A. Yes, sir.

Q. Do you recall approximately when you went to Los Angeles for the purposes of the study?

A. As I recall, it was about May 15, 1939.

Q. You were then chief train dispatcher of the Tucson division?

A. Yes, sir.

Q. You heard the testimony of Mr. Sines as to the methods evolved and plan contemplated for the purpose of that 1938 redispatching study?

A. Yes, sir.

Q. You heard his testimony as to the instructions laid out to be followed in working out the study?

A. Yes, sir.

Q. I will ask you whether, as the chief dispatcher for the Tucson division participating in the study, you followed that plan and conformed to those instructions in performing that study?

A. Yes, I did.

Q. Did you personally make the entries in the redispatched train sheets showing the distribution of the traffic into the redispatched trains?

A. Yes.

[fol. 2699] Q. Was the movement of the redispatched trains conducted under your supervision as the chief train dispatcher?

A. Yes.

Q. Mr. Baker, I take it there are certain definite methods and principles which dispatchers, including yourself as a former trick dispatcher and chief dispatcher, necessarily follow and employ in performing their duties as dispatchers. Now I will ask you whether in the redispatching study and for the purposes of the redispatching study you followed any different methods and principles than

those which you follow and have followed in the conduct of actual operation?

A. No, they were essentially the same except the train dispatcher did not issue actual train orders, but as far as the lining up or consisting of trains it was the same except that we consisted the train of greater length than we did in actual operation.

Q. You made up trains to fit the AC power which was contemplated in the redispatching study?

A. Yes.

Q. And to fit the longer sidings contemplated for that purpose?

A. Yes.

[fol. 2700] Q. Without regard to the 70-car or 44-car restriction, as the case might be?

A. That is right.

Q. Did you in the course of the redispatching study undertake to maintain a balance of power and crews?

A. Yes.

Q. Did you follow any different method for this purpose than you follow in actual practice?

A. No, the same method.

Q. Did you dead-head crews and double-head locomotives where necessary to obtain a balance?

A. Yes.

Q. Did you maintain a record of power and crews for that purpose?

A. Yes, we did.

Q. Is that record a part of the papers of the redispatching study?

A. Yes, sir.

Q. Mr. Baker, you have before you the movement of an actual train over the district, let's say from Yuma to Gila, as recorded on the actual train sheet, the tonnage of the train being 90 per cent of the engine rating of the locomotive handling it, and you have before you on the redispatched train sheets a train to be moved from Yuma to [fol. 2701] Gila, the tonnage of which is likewise 90 per cent of the engine rating of the AC-8 type locomotive between Yuma and Gila. Will you say whether or not you can determine from the movement of the actual train the time which may and will be taken by the redispatched train?

A. Yes, they would conform very closely, practically the same; under similar operating conditions they would be the same.

Q. Suppose the contemplated movement of the redispached train was on the same day as the movement of the actual train with which it is compared, what would be the result then?

A. I would figure that that train would make the same speed over the district as the actual train.

Q. Suppose that the redispached train was required to meet a similar number of westbound trains that were actually met by the train on the actual train-sheet, what would be the effect on the total time enroute?

A. The amount of delay that was incurred by the actual train, of the train that was eliminated, would be deducted from the redispached train to enable them to reach their terminal that much sooner. They wouldn't be delayed [fol. 2702] by this train that was eliminated, that delay would be eliminated.

Q. The elimination of meets and passes, then, would lead to a better or shorter time enroute?

A. It would be a better performance and a shorter time on the district.

Q. Suppose instead of having the redispached train with the same percentage of tonnage rating as the actual train with which it is matched, you have a redispached train with a lesser tonnage rating again between Yuma and Gila eastward, that is, a redispached train having 75 per cent tonnage rating, whereas the actual train had 90 per cent of tonnage rating, would you be able to determine the time which would be taken by the redispached train as compared to the actual train?

A. Yes, by observation over a long period of years, a train in actual operation you can determine very closely the time that a train will make, that is, with the percentage of engine rating, we can figure that a train powered by a locomotive of approximately 70 or 75 per cent engine rating will make the maximum allowable speed and whenever a train is loaded, by actual observation in handling these trains, we know approximately the amount of time they will use. In this particular case you mention, we did [fol. 2703] allow a train of lesser tonnage to recover a

little time over ascending grades, such as Mohawk and Sentinel in the district between Yuma and Gila.

Q. As contrasted to an actual train with a heavier percentage of tonnage rating?

A. Yes.

Q. Suppose that the redispached train had practically one hundred per cent of tonnage rating, say, a 95 per cent of tonnage rating, and was to be compared with an actual train having only 70 per cent of tonnage rating moving on the same day, would the redispached train be operated so as to take more time than the actual train with which it was compared?

A. Yes, that was taken into consideration. We figured it would use more time over the district.

Q. Suppose that an actual train was delayed because of an engine failure, would that fact be shown on the actual train sheet?

A. Yes, that delay would be duplicated or it was duplicated.

Q. It would — shown on the actual train sheet?

A. Yes.

Q. For the redispached train sheet, would you assign that delay to a redispached train?

[Vol. 2704] A. Yes.

Q. Just which redispached train would it be assigned to?

A. If the engine failure was on an identified train on the actual, we would assign the engine failure to the identical train on the redispaching study, and in the case of a drag or some unidentified train we would assign it to a drag operating closely at the time that the drag on the actual operation was operated.

Q. For example, suppose the train containing the block identified as C-413 experienced an engine failure between Yuma and Gila, would you assign that same delay due to engine failure to the redispached train containing C-413?

A. Yes, sir.

Q. Did you make provision for the use of helpers on your redispached trains on the helper districts on the Tucson division?

A. Yes.

Q. Did you observe any different methods than are observed in providing helpers from day to day?



A. No, we observed the same method. The amount of traffic determined the number of helpers we would have to assign to helper stations.

Q. And the tonnage of the train in relation to the engine [fol. 2705] rating, did that have any effect upon whether a helper would be used or not?

A. Yes, sir.

Q. Departing for a moment from the redispatching study, you recall that in your previous testimony there was introduced, as one of defendant's exhibits, exhibit No. 175, the employees' timetables for all of the divisions of the Pacific lines with the Southern Pacific and as well the timetables of the Western Pacific Railroad Company covering operations of the Southern Pacific trains on the paired track territory in Nevada where Western Pacific rails are used for eastward movement, and at that time you testified a new Western Pacific timetable had become effective on January 5, 1941?

A. Yes.

Q. I will ask you whether you have since obtained further information as to that Western Pacific timetable?

A. Yes, due to protest being filed by other lines, that effective date has been indefinitely postponed, and the timetable shown in that exhibit of the Western Pacific is the current operating timetable.

Q. So that exhibit No. 175 includes all of the operating [fol. 2706] timetables, including the Western Pacific timetables as of the date of its introduction into evidence here?

A. That is right.

The Court: While you are on this timetable matter, did I understand you to testify this morning in response to a question from Mr. Mason that freight trains were not operated on any given schedule?

A. No, that was not the intent of it. What I meant to say was they were not operated with any degree of regularity like a passenger train is on schedule. However, in our operating timetables, we have schedules for operating freight trains.

The Court: That is what confused me. I have before me this exhibit No. 175 on your Tucson division and I notice there on the second page of your eastward movement that you list out of Yuma, for instance, four freight trains, 846, 902, 844, and 842, which leave daily at a given

hour. Do I understand that that schedule is not necessarily maintained, that you actually run these trains when there is business to warrant it in spite of the showing here in these timetables?

A. That is right. These schedules are set up for the convenience of the train dispatcher in operating his trains and [fol. 2707] does not necessarily mean that these schedules have anything to do with our perishable or manifest schedules insofar as the schedules are concerned. It is merely for the convenience of the train dispatcher. If he didn't have these schedules in here, it would be necessary for him to operate all his trains as extras. These are merely set up for the convenience of the train dispatcher in handling his freight trains.

The Court: Of course with the passenger trains where you have the public to deal with the passenger can absolutely rely on the fact that a train will leave, we will say, Los Angeles or any given terminal at the hour stated in the schedule.

A. That is right, its advertised schedule to the public.

The Court: That is not true with your freight operation?

A. No.

The Court: Even though you may show here and do show on page 2 four freight trains operating eastward daily. As a matter of fact, those trains would not operate unless there was a volume of traffic to warrant it?

A. That is right. It may be that any one of these second-class schedules shown on page 2 may be annulled [fol. 2708] by the train dispatcher and not used at all.

The Court: Taking it by and large, is that schedule I have referred to here in the main maintained? Are there four trains operating eastward out of Yuma carrying freight on each day?

A. Yes, there is practically every day out of Yuma when business is normal, there are one or more sections of each one of these schedules operated.

The Court: But they don't necessarily leave at the hour stated in this schedule?

A. No, just so they leave within twelve hours of the departing time they are operated on that schedule.

(Mr. Mason:

Q. These schedules to which the Court refers are sometimes known as "phantom" schedules, Mr. Baker?

A. Yes, sir.

Q. That, of course, is mere slang or a vernacular term, is it?

A. Yes, sir.

Q. What actually is done in order to operate freight trains on the schedules shown in the Tucson division timetables from Yuma to Gila?

A. When there is only one section operating, it is only [fol. 2709] necessary to authorize that train by giving them a clearance card showing the train number and the number of orders at that point. However, if there is more than one section, it is necessary that each section be given an order stating the engine number and what schedule he will assume from his initial terminal.

Q. Do you tell him to run so many hours and minutes late on a particular schedule?

A. Yes. That form of order is used. There are several forms of orders that can be used, but that is one of them.

Q. Will you recite a typical form or order authorizing a train to move as a second section of a scheduled freight train from Yuma to Gila.

A. Take 846, you would give him an order, a signed order number and addressed to engine 3660 and the address, and in the body of the order you would state, "Engine 3660 run as second 846 Yuma to Gila," or in case another section of that train is to be run, it could be modified by saying, "Engine 3660 will display signals and run as second 846 Yuma to Gila," which then gives the train dispatcher authority to originate another section of that schedule at Yuma.

Q. Does your order authorizing the engine to run also [fol. 2710] give him a departure time?

A. No, unless this 846 is due to leave Yuma on the schedule, 4:50 P. M., and it may be that this train is called to depart from Yuma at 6 P. M.; the train dispatcher in order to move westward freight trains against that schedule will issue an order reading, "First 846 run one hour and ten minutes late Yuma to Gila."

[fol. 2711] Q. That will be a separate order?

A. That is a separate order.

Q. And he can issue a corresponding separate order to each other section of 846.

A. Yes, or he may include all sections in that one order, stating the time that each section will leave Yuma or the

number of hours or minutes that he will operate late on his schedule.

Q. Suppose that the dispatcher does order the first section to run, let us say, one hour late; then what does the engineer, or what do the engineer and conductor do in their operations?

A. They have to respect this schedule by adding the one hour late, they will respect the one-hour later schedule at all times shown on this schedule, between Yuma and Gila.

Q. Simply use the phantom schedule, set up in the timetable, adding to it the amount of the time of their running late?

A. That is right.

The Court: Mr. Baker, there is one other question. This is asked purely out of curiosity as to the mechanics of it. Does the dispatcher have before him, the trick dispatcher, a board or chart on which the progress of the train across his division is shown by means of pins or some other [fol. 2712] method, so that at all times at a glance he can tell where those trains are?

A. That is shown on his train sheet. He has his train sheet in front of him, and the time that each train departs from the terminal or passes an open telegraph office, the time is transmitted to him by operators and transcribed on his train sheet, so that he knows all the time, practically all the time, where all his trains are at.

Q. But it is from the train sheet rather than from any chart or board?

A. Yes, from the train sheet.

Mr. Strauss: An experienced dispatcher can tell by just glancing at his train sheet where practically every train on his district is?

A. Yes; in fact, he has them in his head. He doesn't have to look at his train sheet, he knows where his trains are all the time.

Q. That to them is just like a board with pins?

A. That is right.

Mr. Mason: Can you, as chief dispatcher, coming into the room where the train dispatchers are working, tell where the positions of the trains are by looking at the train sheets?

A. Yes, by experience I know almost as well as the train dispatcher where his trains are.

[fol. 2713] Mr. Strouss: There is one other thing. On your schedule there, that information is also for the use of opposing trains when a late order is issued, isn't it?

A. Yes, that is the purpose of it, to operate the trains in both directions.

Mr. Mason: Is this late order of the kind that you have dictated into the record transmitted also to opposing trains or trains in the same direction whose movements may be affected by the train running late?

A. Just to trains of inferior class moving in the opposite direction, except in the case of passenger trains, which are first-class trains, then a copy of that order is given to trains in the same direction, or inferior trains.

The Court: Do any of your divisions in this territory cover more than one different time area? By that I mean like the Pacific Time, or Mountain Time, or is that taken into consideration in forming your divisions?

A. No, the time change on the Tucson division is at Yuma. The Los Angeles division train dispatchers use Pacific time and the Tucson dispatchers use Mountain time.

Q. Well, it happens in this instance, that your time change [fol. 2714] is at Yuma?

A. Yes.

Q. Which is a division point?

A. Yes.

Mr. Mason: The same is used all the way from Yuma to Tucumcari, is it not, Mr. Baker?

A. Yes.

The Court: I should think that the Santa Fe, for instance, where their time changes at Seligman, which is not a division point, they would experience some difficulty in the change of time there?

A. Yes, they would unless they have made some special arrangements for it.

Mr. Mason: Mr. Baker, those schedules that are shown there for second-class trains, referring to the Tucson division timetable which you have before you, suppose that no train is run on the schedule shown for No. 844, is any order issued with respect to that?

A. Yes, an order is addressed to No. 844 at Yuma, and a copy of that order then is given to all westward extra



trains on the line between Yuma and Gila, and at Gila for any other extra trains that may be operated, and the order will read, "No. 844" of such a date, "is annulled Yuma to Gila."

[fol. 2715] Q. Then the schedules shown must either be fulfilled or cancelled by order, is that correct?

A. They are fulfilled or annulled, yes.

Q. Mr. Baker, referring back to the matter of schedules for the handling of perishable eastward and manifest westward; which were discussed in your testimony the other day, I believe that you have testified that you received reports at Southern Pacific terminals and interchange points of the arrivals of scheduled trains moving eastward and at terminal points on the Pacific Coast of the arrivals of scheduled trains moving westward?

A. Yes.

Q. Is that a regular daily report made to the superintendent of transportation?

A. Yes, that is a daily report, that is, on schedules terminating on Pacific Lines we get a daily report of their arrivals.

Q. Now, do you receive a current report of the performance of eastbound perishable scheduled trains as to arrival at Ogden, El Paso, and Tucumcari?

A. Yes, daily.

Q. Have you those reports at hand either in the court room or in Tucson?

[fol. 2716] A. Yes, I have them in the court room.

Q. Have you made a study of the number of scheduled trains operated and of the number which made running time in accordance with schedule for the year 1939?

A. Yes, I have.

Q. I wish you would refer first to the identified manifest train known as C. S. Over what route does that train operate?

A. That train operates between—

Q. That is, over what route of the Pacific Lines?

A. Between Ogden and San Francisco.

Q. And how many C. S. trains were operated in 1939?

A. In 1939 we had 688 sections of the C. S. between Ogden and San Francisco.

The Court: I didn't catch, Mr. Baker, what you mean by that symbol "C. S." Has it any particular significance?

A. Yes, that is the identification of our west manifest train that operates between Chicago and San Francisco. It means "California Special," but it is shortened by calling it the C. S.

The Court: We will take our noon recess at this time until two o'clock.

(Thereupon, the court stood at recess.)

[fol. 2717] January 22, 1941, two o'clock P. M.

Proceedings were resumed at this time as follows:

The Court: Will the witness who was on the stand resume the stand?

Mr. Mason: Your Honor, before we resume with Mr. Baker, Mr. Strouss and I have agreed that Mr. Kirk, who returned here from St. Louis with the Missouri Pacific Train sheets, need not remain here for further cross-examination, he and his records may be released.

Mr. Strouss: That is correct.

The Court: Then, Mr. Kirk, you may be released with your records.

Mr. Kirk: Thank you.

The Witness G. C. BAKER, was recalled to the stand and testified further as follows:

Mr. Mason: Mr. Baker, I think you had just started at the conclusion of the morning session to refer to the number of identified trains operated, and I believe that you were referring first to the C. S. train over the Ogden route? How many of those were operated, first, as regular sections during 1939?

A. 365.

[fol. 2718] Q. And how many extra sections of the C. S. were operated during that year?

A. Three hundred thirty-five.

Q. Or a total of 700?

A. That is right.

Q. Now, of the regular sections operated, how many made their running time in accordance with schedule?

A. Three hundred forty-five, or 94.6 per cent.

Q. And how many of the extra sections made their running time in accordance with schedule?

A. Three hundred twenty-three, or 96.5 per cent.

Q. Is there an identified manifest train known as the S. S. W.?

A. Yes, the Sunset West.

Q. Is that one of the trains referred to by schedule on your exhibit No. 176?

A. Yes, it is.

Q. How many regular sections of the S. S. W. were operated during 1939?

A. Three hundred sixty-five.

Q. And how many of those made their running time in accordance with schedule?

A. Three hundred forty-six, or 94.8 per cent.

Q. Did you operate extra sections of the S. S. W. during [fol. 2719] 1939?

A. Yes, there were 48 sections operated.

Q. How many of the extra sections made their running time in accordance with their schedule?

A. Forty-six, or 95.9 per cent.

Q. You also refer on exhibit No. 176 to a train called the G. B. W. or Gold Ball West; is that also operated over the route through Arizona?

A. Yes.

Q. How many of those did you operate during 1939, first, as regular sections?

A. Three hundred sixty-five regular sections.

Q. And how many of those made their running time in accordance with schedule?

A. Three hundred twenty-six, or 89.4 per cent.

Q. Did you operate extra sections of the G. B. W. during 1939?

A. Yes, there were 411 extra sections operated.

Q. How many of those made running time in accordance with schedule?

A. Three hundred fifty, or 85.2 per cent.

Q. How many identified fruit blocks were operated eastward from Roseville over the Ogden route in 1939?

A. Sixteen hundred eight.

Q. And how many of those made running time at Ogden [fol. 2720] in accordance with schedule?

A. One thousand four hundred twenty-eight, or 88.8 per cent.

Q. How many identified fruit blocks were operated from Colton to El Paso in the year 1939?

A. Well, including the train that was split at Tuma, there were operated into El Paso 1,528 Colton blocks.

Q. How many of those Colton blocks made running time at El Paso in accordance with schedule?

A. One thousand two hundred sixty-one, or 82.5 per cent.

Q. Now, were a number of these Colton blocks also operated on to Tucumcari?

A. Yes, they were consolidated at El Paso, that is, the Rock Island traffic taken out, and there were 800 blocks operated east of El Paso through Tucumcari.

Q. And how many of those 800 made running time at Tucumcari in accordance with schedule?

A. Seven hundred fifty-eight, or 94.8 per cent.

Q. Are these totals all taken from the records in the office of the superintendent of transportation to which you referred in the beginning of this portion of your testimony?

A. Yes, that is correct.

[fol. 2721] Q. And the computations, I take it, are your own?

A. Yes.

[fol. 2722] The Court: Before you leave that, just what was the purpose of this last testimony?

Mr. Mason: Your Honor, we have had testimony from each of the other railroads as to performance in accordance with schedules. Of course, a schedule, if placed on paper, doesn't mean much unless it is lived up to, at least reasonably lived up to and the purpose is to show that we not only published and provided these schedules for the handling of manifest westward and perishable freight eastward but that we also performed in accordance with these schedules a substantial and, in fact, a very great proportion of the time.

The Court: You were seeking to draw any comparison between the traffic routed over the Arizona route on your southern lines and that routed through Ogden?

Mr. Mason: I think that such a comparison is possible, yes, and the figures over the two routes might very well be contrasted for the purpose of showing whether performance over the southern route is as good or better or worse than the performance over the more northern route. Of course the testimony is particularly pertinent in showing that schedules are maintained and on-time performance realized with long-train operation across Nevada where

[fol. 2723] the testimony already established that such operation prevails. That supports one of our allegations in the affirmative answer substantially to that effect, that with the long-train operation it has been possible to shorten schedules and make on-time performance.

Mr. Strouss: If that is the purpose, I want to show an objection that it is irrelevant and immaterial.

The Court: The objection is overruled.

Mr. Strouss: Did I understand the performance as to Roseville; to where was that?

Mr. Mason: to Ogden. Wasn't that correct, Mr. Baker?

A. Yes, sir.

Mr. Mason: I think my question referred to Ogden.

Q. Mr. Baker, I think in your testimony this morning you stated that you supervised generally the work of the trick dispatchers who worked jointly with you in performing the redispatching study so far as the Tucson division was concerned. Is that correct?

A. That is right.

Q. Did you yourself place certain of the entries on the redispatched train sheets?

[fol. 2724] A. Yes, I placed the crews, class of power, and the time of departure from Yuma, and also the number of cars to be handled; also entered upon the train sheets for the information of the trick dispatcher the points at which trains would set out and pick up at intermediate points.

Q. Did the trick dispatcher make certain other entries upon the train sheet?

A. Yes, the trick dispatcher, to start with, entered the performance of the actual train in the column adjacent to the column reserved for the operation of the redispatched train, and he entered the times at stations as the redispatched train progressed across the district, he entered the times at the various stations on the district.

Q. He actually operated the redispatched train across the district after you had started it, is that it?

A. Yes.

Q. Did you supervise the making of such entries by the trick dispatcher?

A. Yes, I supervised the work of the redispatched trains that the trick dispatcher performed just the same as I would in actual practice.



Q. After the entries had been made by the trick dispatcher, did you check such entries to see whether they were [fol. 2725] correct?

A. Yes, I did.

Q. What was the reason or purpose of your checking the entries made by the trick dispatcher showing the progress of the train?

A. I thought that I was personally responsible for that redispatching study that had been assigned to me the same as I would have the same responsibility in actual practice.

Q. Did you determine whether or not the operation of the redispatched trains was in accordance with the established principles of dispatching and particularly the conditions governing at the time the actual and the redispatched trains were run?

A. Yes, I did.

Q. Did you check particularly as to the times over the road taken by the redispatched trains?

A. Yes.

Q. Did you check on the meets and passes which were made by such trains?

A. Yes, I did.

Q. Did you make any check of the use of helpers on those trains?

A. Yes.

Q. Did you make any check of the times spent by the trains at intermediate terminals or in passing through terminals?

[fol. 2726] A. Yes, that was one of my duties, to determine by the amount of work that would line up for those particular trains, the amount of time that would be used through any particular terminal.

Q. Will you state whether or not the entries on the redispatched train sheets for the 1938 redispatch which were made by you or under your supervision reasonably and accurately represent the operation of those redispatched trains as it could and would have occurred under the conditions governing the redispatching study?

A. Yes, to the best of my ability I tried to and did supervise that work, the redispatching of the trains, just the same as I did in actual practice.

Mr. Mason: That is all we have for Mr. Baker.

Mr. Strouss: I think it is preliminary to again offering the exhibit so I will ask a few questions.

Mr. Mason: As to the reoffer of exhibit No. 198?

Mr. Strouss: Yes.

Mr. Mason: We will have Mr. Sines back on the stand before we reoffer No. 198 because I will have the witness who made the entries of wages also testify as to just how [fol. 2727] he did that.

The Court: You may cross-examine then, Mr. Strouss.

Mr. Strouss: Just a few questions I want to ask at the present time. I don't want to finish my cross-examination but on this particular thing I would like to ask a few questions.

### Cross-examination.

By Mr. Strouss:

Q. Mr. Baker, in dispatching trains or redispersing trains here, the availability of traffic is an important item?

A. That is right.

Q. Your dispatching of trains depends to a great extent upon the traffic which is available?

A. Yes.

Q. And when available?

A. That is right.

Q. So that in order to properly dispatch trains you have to know what traffic is available and when it is available?

A. That is right.

Q. And that would include the character of the traffic, would it not?

A. Yes, sir.

[fol. 2728] Q. You would also want to know the traffic that is to be picked up or set out enroute, would you not?

A. That is right.

Q. That is over the division that is under your supervision?

A. That is right.

Q. Of course you would want to know the operating characteristics of the power that is to be used, that is, its tonnage rating on your particular division?

A. That is right.

Q. And its possibilities of speed, that would be an element in the dispatching of your trains, that is, the time element?

A. Yes, the time element.

Q. And the tonnage, of course, that is being moved, that is another thing that would be necessary to know in the dispatching of your trains?

A. That is correct.

Mr. Strouss: That is all for now.

Mr. Mason: Do you wish Mr. Baker to remain at Tucson to be called further for cross-examination?

Mr. Strouss: Yes, I haven't gone into the matters he testified to the other day. The questions I asked now, I [fol. 2729] took it that the examination of Mr. Baker today has been more or less preliminary to a reoffering of exhibit No. 198 for identification.

Mr. Mason: Yes, it has been preliminary to that, but it has been for the purpose of laying the foundation for the entire redispatching study.

Mr. Strouss: If you desire Mr. Baker to leave, I will check over his previous testimony this evening and try to release him tomorrow morning.

Mr. Mason: All right, thank you very much.

The Court: Call the next witness.

[fol. 2730] Mr. Mason: We will call Mr. Herrell.

L. D. HERRELL was called as a witness on behalf of the defendant and, being first duly sworn, testified as follows:

Direct examination.

By Mr. Mason:

Q. Will you please state your name and residence to the reporter, Mr. Herrell?

A. L. D. Herrell, El Paso, Texas.

Q. What is your position with the Southern Pacific Company?

A. Chief Train Dispatcher, Rio Grande Division.

Q. How long have you occupied that position, Mr. Herrell?

A. Since February 1, 1937.

Q. What was your previous experience in railroad service?

A. I began with the Louisville and Nashville on the S. & N. A. Division, the headquarters of which are at Birmingham, Alabama, in 1908 as a telegrapher. In June, 1913, I

was promoted to train dispatcher and remained in that position with the L. & N. until January, 1915, at which time, on account of reduction in force I was again reduced to [fol. 2731] the rank of telegrapher, of extra telegrapher, I may say and worked very little until I came with the Southern Pacific on the 3th day of October, 1915, on the Tucson division as telegrapher, and in May, 1916, was promoted to dispatcher, working at El Paso and Tucson, until October of the same year, at which time I was transferred to the Arizona Eastern at Globe and remained in Globe until November 24, 1924, at which time we were absorbed by the Southern Pacific along with the Southern.

Q. You mean the El Paso and Southwestern?

A. Yes, along with the El Paso and Southwestern. I worked as train dispatcher at El Paso from 1924 until about 1931, when I assumed what we call the first relief position. On that position, I worked three days per week as trick dispatcher, one day per week as chief dispatcher, and two days per week as assistant chief dispatcher, until I was given the chief dispatcher's job on February 1, 1937.

Q. Mr. Herrell, you heard the testimony of Mr. Sines, did you, as to the redispatching study undertaken in 1939 with respect to 1938 traffic?

A. I did.

Q. Are you the L. D. Herrell mentioned by Mr. Sines in [fol. 2732] his testimony as having participated in that study?

A. I am.

Q. How far did your jurisdiction as chief dispatcher extend in 1938?

A. Extends from Tucumcari, New Mexico, to Lordsburg, New Mexico, and from El Paso, Texas to Tucson, Arizona, on the line via Douglas, that is, the dispatchers working under my jurisdiction handle the westbound main track from Mescal to Tucson.

Q. And do you handle all train operations east of Mescal on the south line?

A. I do.

Q. And on the north line your jurisdiction extends westward from El Paso to Lordsburg?

A. Correct.

Q. Now, in the 1938 redispatching study, Mr. Herrell, where did you start the operation of the redispatched westward trains?

A. From El Paso.

Q. And so far as you were concerned, where was the redispatching of the eastward trains commenced?

A. From Lordsburg.

Q. From whom did you receive the traffic at Lordsburg? [Vol. 2733] A. The chief dispatcher of the Tucson division, Mr. Baker, at that time.

Q. In actual practice, Mr. Herrell, do you receive any advance information from the Tucson division or divisions further west as to the trains which will reach you thereafter?

A. I get my information from the chief dispatcher at Tucson. I also receive a consist of each freight train from Yuma very soon after its departure from that point.

Q. Is that sent to you by telegraph?

A. Teletype, which is used in place of telegraph, replacing it.

Q. Now, what information is shown on the consists that are teletyped to you from Yuma?

A. The train identification number, that is, the block number, also the perishable and manifest loads for the Rock Island, perishable and manifest loads for the T. & N. O., perishable and manifest loads for the Texas and Pacific, also any cars that might be routed via the Santa Fe from either Tucumcari or El Paso, and usually includes the short loads; in fact, the consist shows the destination of all cars on the train out of Yuma.

Q. You speak of short loads. Just what do you mean by that?

[Vol. 2734] A. Well, cars for Tucson, for Douglas, Bowie, or any other intermediate points.

Q. Will it also show cars for intermediate points on your own division, such as Deming or Alamogordo?

A. Yes, it will. However, they are very few.

Q. Does your consist also show cars destined for interchange with the Mexican Railroad at El Paso?

A. They do not.

Q. They don't show that?

A. They do not. Now, I say they do not, I don't believe I have any recollection of ever having seen one for the Mexico and Northwestern or any of those lines, especially



on the freight trains. Now, we do on the passenger trains, we get that information. However, the consist would probably show the destination as El Paso, but by other means I have obtained the information as to where the car is going.

Q. In actual practice, do you use this lineup for any purpose in arranging your trains out of Lordsburg?

A. I do.

Q. We have a line-up form which we use in El Paso when we receive these consists from Yuma. The first column [fol. 2735] will show how many cars east of Tucson on this particular train. Then we show the loads for the Rock Island; two columns, we have a separate column for perishable and one for manifest; in the same manner for the T. & P. and in the same manner for El Paso, because El Paso is quite a diversion point and some shipper may bill in one block 15 or 20 cars of perishables to El Paso for diversion, and on the Yuma consist, the destination of those perishables will be shown as El Paso. However, from experience I know that that is not the final destination of that perishable. We may pick up practically all of it via the Rock Island.

Q. You say that you make a line-up in accordance with this form?

A. We do.

Q. Do you actually determine the number of trains you are going to operate as a result of the information thus given to you?

A. As nearly as possible. That is the only information that we have, say 24 hours in advance as to how many trains it is going to be necessary for us to operate out of El Paso via Tucumcari.

Q. Does this information tell you how many trains you [fol. 2736] are going to operate out of Lordsburg to El Paso?

A. Ordinarily, yes, sir.

Q. How much in advance of the arrival of the traffic at Lordsburg does the information reach you?

A. Well, we consider the average run from Yuma to Lordsburg as 20 to 22 hours, therefore, I usually have the information, I would say, 19 or 20 hours in advance of the arrival of the train at Lordsburg.

Q. Do you plan the train movements out of Lordsburg as long as 19 or 20 hours in advance of actual movement?

A. I do.

Q. Why do you have to do that?

A. It is necessary that I have that information in order to get the necessary amount of power and crews at Lordsburg to protect the eastward perishable trains, as they must be on hand before the arrival of the trains, the crews rested ready to go to work.

Q. You say you must place the power and the crews at Lordsburg?

A. I must have the information in order to get them at Lordsburg from El Paso.

Q. And why do you have to move the men and locomotives to Lordsburg?

A. El Paso is our home terminal, Lordsburg is the away-from-home terminal, we don't have any surplus power or crews at Lordsburg in the ordinary run of operations.

Q. Does the information that you receive from the west have any influence on the number of trains you will operate westward from El Paso toward Lordsburg?

A. Yes, at times it is a controlling factor.

Q. Why is that?

A. Well, because we may not have enough westbound business to operate enough units with full tonnage or full crew limit as we use it over there. Now, we are running 100-car trains on most of our drags, so if I am out of balance at Lordsburg and need to get another engine and crew at that point, then I have to have at least two hours to get the train started from El Paso, and approximately seven or eight hours for the run, and then the crew must have more than eight hours off duty before they can be called back to work.

Q. By the way, Mr. Herrell, were you present when Mr. Baker described the scope of the duties of the chief dispatcher and the trick dispatcher?

A. I was.

[fol. 2738] Q. And did you hear his testimony in that regard?

A. I did.

Q. Does the scope of the duties performed by you as chief dispatcher and of your trick dispatchers correspond to what Mr. Baker stated?

A. Yes, with some variations. I have connecting lines at El Paso that I have to give the necessary information to the same as I would if it were a connecting division.

Q. Do you receive information from connecting lines as to prospective arrivals at El Paso as well?

A. I do also from the Rock Island at Tucumanari.

Q. Now, in the redispatching study, Mr. Herrell, did you receive advance information from the chief dispatcher of the Tucson division as to the trains which would be operated into Lordsburg in the redispatched operation?

A. I did.

Q. How was that information conveyed to you?

A. Well, we were working there in the same room together and we worked just like we would if we were on our normal positions. When he started his trains out of Yuma, why, that gave me the advance information as to when they [fol. 2739] would reach Lordsburg and about what their consist would be.

Q. Was the information as to these trains leaving Yuma passed to you as the Rio Grande division chief train dispatcher?

A. It was.

Q. In the westward operation, do you give advance information to the Tucson division as to trains which are to reach Lordsburg in the near future?

A. I do.

Q. Do you give him that information before the trains leave El Paso?

A. I do.

Q. Just how do you do that?

A. By line-ups; We make at least three line-ups daily, every eight hours, to the chief dispatchers and others concerned at Tucson, giving them as nearly as possible at the time the line-up is made out how many trains, especially the manifest trains, we will deliver them at Lordsburg the next day. This is given, our first line-up is given 22 to 24 hours in advance, and we have telephone connections that we use to confer with each other several times daily, that is, during the entire 24-hour period we are [fol. 2740] in communication with each other any time it is necessary.

Q. Now, you base these line-ups on information reaching you from your eastward connections?

A. That is correct.

Q. Do you receive information in advance of actual arrival of trains from the Rock Island, for example?

A. We do, we receive a line-up from the chief dispatcher of the Rock Island at Dalhart as to what time the G. B. W. will reach Tucumcari the following day. However, that consist doesn't show the loads, as we practically always operate only one train west with manifests from Tucumcari, especially since we have the larger power.

Q. Now, do you receive a line-up for consists from Tucumcari as to trains operating westward from that point to El Paso?

A. I do.

Q. Is that sent you by teletype?

A. It is.

[fol. 2741] Q. Do you receive advance information from the dispatcher of the Texas and New Orleans as to traffic which will be delivered at El Paso?

A. I do.

Q. How is that received?

A. By a line-up which is passed from his desk to mine, as we are both located in the same office.

Q. Do you receive similar information from the Texas and Pacific?

A. I do, I receive a consist of the Texas and Pacific manifest train soon after it leaves Fort Worth.

Q. Did you in the redispatching study communicate advance information of trains to be operated out of El Paso on the redispatched train sheets?

A. I did.

Q. To the dispatcher of the Tucson division?

A. I did.

Q. How did you give that information to him?

A. Usually our operation in the redispatch was as to our manifest trains, the same as it was in actual practice.

Q. You mean as to times of departure?

A. Times of departure. The only difference that we made in those trains was that we filled them with empties. [fol. 2742] Q. Up to what number of cars?

A. Usually 85 or 90. I tried to stay within the tonnage ratio of the larger power the same as I do with the present power. In other words, we tried to build the trains at El Paso so they would not have to be touched at Lordsburg and there would be nothing except change engines and caboose.

Q. In eastward operations from Lordsburg to El Paso of the redispached trains, did you observe any particular maximum train length for the purpose of redispach study?

A. As a usual thing I handled the trains as they were delivered to me by the Tucson division.

Q. Was it necessary to make changes of consist at Lordsburg?

A. Sometimes they have short cars for Lordsburg or Clifton where it is necessary that the cars be cut out. There are at times a few cars to be picked up at Lordsburg, and we picked them up.

Q. Apart from those instances, were there any other changes necessarily made in the redispached trains as received from the Tucson division?

A. Not necessarily.

Q. Were these instances of short cars to be set out or picked up at Lordsburg frequent or comparatively rare?

[fol. 2743] A. Well, it is a daily occurrence.

Q. Are there very many such cars?

A. Not very many.

Q. You spoke of having operated some 100-car trains westward from El Paso to Lordsburg. Do you do that at the present time irrespective of the redispaching operation?

A. We have for the sixteen years I have been in El Paso.

Q. Are those trains always built up to 100 cars at El Paso or are they sometimes built up to that length at a point a short distance west of El Paso?

A. No, we can build up a train to 100 cars at El Paso, but on the redispach in order to handle 125 cars on our westbound drags, which included mostly empties it was necessary to build 100-car trains at El Paso, or, rather, when we accumulated more than two or three hundred empties I would run a short turn-around service, as we call it, from El Paso to Strauss, which is approximately 18 or 19 miles west of El Paso, and at which we have trackage to hold more than two hundred cars without blocking the siding and we would set these cars out at that point. Then, when we operated our 100-car drags west from El Paso, we would have them pick up whatever we wanted [fol. 2744] them to at Strauss by instructing the conductor, usually not more than 125 cars out of Strauss.

Q. So the train would be 125 cars from Strauss to Lordsburg?



A. That is correct.

Q. And one hundred out of El Paso?

A. One hundred out of El Paso.

Q. This method was used in redispach-operation, was it?

A. It was.

Q. Do you ever use a similar method in actual operation?

A. Not for that same purpose. We do, when we get blocked at times, have stored cars at Strauss on numerous occasions.

Q. Do I understand that this filling at Strauss was only westbound drags, consisting principally or entirely of empties?

A. I believe there are probably two or three occasions where I had a manifest train pick up a few cars at Strauss in order to fill, as they were light out of El Paso. That was a rare occasion.

Q. Other than those occasions, the picking up was confined to the drags or empties?

A. The drags, and the train which we operate out of El Paso each night known as the "north-line merchandise," [fol. 2745] It is the merchandise cars from the El Paso house or Deming, Lordsburg, and Clifton, and points on the Globe branch.

The Court: Mr. Herrell, with these actual operations you would build up a surplus of cars at Lordsburg of your empties, would you not? Where you were taking trains out of El Paso in excess of 70 cars, say, 100-car trains of those empties, you run those to Lordsburg and then you are confronted with the Arizona law so you would have to whittle that train down to the requisite number of cars, wouldn't you?

A. That is correct. Every two drags I run in there, he has to run about three out.

Mr. Mason:

Q. I think you should make it clear that the problem of cutting down the cars at Lordsburg is the problem of the Tucson division.

A. That is right; when I deliver the train to him at Lordsburg, I am through with it.

Q. It becomes Mr. Baker's or Mr. Cassady's problem?

A. It becomes the problem of the Tucson chief dispatcher. Lots of times we get them too full over there and have to

cut them down to 70 cars at Deming. In other words, we have to handle those same cars twice and later on I have [fol. 2746] to let some train out of El Paso light enough to pick up those cars which I have reduced at Deming. That also causes us, at times when the flow of refrigerators arrive El Paso faster than the Tucson division can handle them and we can't handle them in the El Paso yard, to run two hundred of them out to Strauss and store them out there until the flow has equalized itself enough to where the Tucson division can move them out of Lordsburg, which will give me room to move them into Lordsburg.

The Court: One other question, I take it from the testimony given by you and Mr. Baker that there is only one chief dispatcher in each division?

A. That is correct.

The Court: However, there must be a dispatcher on duty twenty-four hours out of each day?

A. Those are assistant chief dispatchers. I have two assistant chief dispatchers; one comes on at four o'clock and works until midnight; another comes on at midnight and works until eight A. M. until relieved by me.

The Court: These assistant train dispatchers are in addition to the so-called "trick" dispatchers?

A. Yes, sir.

[fol. 2747] The Court: In other words, there are two dispatchers on duty at all times, either yourself as chief or one of your assistants and a trick dispatcher?

A. That is correct, one or more trick dispatchers.

Mr. Mason:

Q. How many trick dispatchers do you have altogether in the headquarters of the Rio Grande division at El Paso?

A. I have six trick dispatchers and one relief dispatcher who works six days per week and another relief dispatcher who works three days per week, two assistant chief dispatchers and myself. Ten permanent positions and one which is termed an extra position, because it is only three days per week.

Q. Out of those ten people, how many as a minimum are on duty in the dispatcher's office at any one time?

A. Three.

Q. In actual operation you receive the eastbound perishable trains at Lordsburg from the Tucson division in units of not more than 70 cars, do you?

A. That is correct.

Q. Do you build those eastbound perishable trains up [fol. 2748] to greater lengths at Lordsburg?

A. We do.

Q. How frequently do you do that?

A. I would say just as often as we can, that is one of our main duties.

Q. How often can you do it?

A. It depends upon the schedule. Mr. Mason, whether or not I can do that and arrive El Paso, maintain schedule with that train, but I would say one of the main features of that is whether or not I am long or short of crews and power at Lordsburg. Sometimes I will take that chance of making a consolidation of three trains into two at Lordsburg and not have a unit of protection over there for each train and we get away with it in nice shape. Sometimes we might do that and not do so well.

Q. Do you ever have to operate trains in units of 70 cars or less straight through Lordsburg to El Paso in order to make schedule?

A. That is our most frequent operation.

Q. Is that more frequent than the consolidation?

A. Oh, absolutely.

Q. How much more frequent according to your experience?

A. I would say 75 per cent of the trains operated eastward out of Lordsburg are 70 cars or less.

[fol. 2749] Q. Are they substantially the same trains that are delivered to you by the Tucson division at Lordsburg?

A. They are.

Q. What is it that causes your inability or failure to hold them for consolidation at Lordsburg?

A. The fact that they are not arriving close together or not in good enough shape as to time for consolidation or it may be that I have a surplus of crews and power at Lordsburg which it is necessary to return to El Paso. There are many controlling factors.

Q. Did you in the redispach operation undertake any consolidation of eastbound trains at Lordsburg for the purpose of running longer trains on the Rio Grande division

than the redispached trains that were run on the Tucson division?

A. As I remember it, the opportunity for consolidation at Lordsburg was very rare.

Q. Did you yourself make any of the entries upon the redispach train sheets covering redispach operations on the Rio Grande division?

A. I made them all, I had no assistance. I did all the work myself.

Q. Did you yourself actually operate the trains between [fol. 2750] El Paso and Lordsburg?

A. I did.

Q. Did you make the entries as to times at intermediate points?

A. I did. I did the work of a trick dispatcher as well as chief dispatcher.

The Court: Mr. Herrell, who is the immediate superior of the chief dispatcher?

A. He reports only to the superintendent.

The Court: You mean the superintendent of the division?

A. Superintendent of the division, yes, sir.

Mr. Mason:

Q. Mr. Herrell, did you plan and calculate all of the meets and passes of the redispached trains?

A. I did.

Q. And worked out the points at which such meets and passes would take place?

A. That is correct.

Q. Did you undertake to match up your redispached trains with actual trains?

A. I did.

Q. For what purposes?

A. Because we had to match the runs. I was instructed to handle the redispach the same as I would in actual practice and that is what I tried to do.

[fol. 2751] Q. Could you match the run of a redispached train with tonnage rating or a definite percentage of tonnage rating with the run of an actual train having tonnage rating or an equivalent definite percentage of tonnage rating?

A. I did.

Q. Was that done on each day?

A. On each day.

Q. Were you present in the courtroom when Mr. Sines testified as to the general method laid down for the conduct of the redispatching study?

A. I was.

Q. Will you say whether or not you participated in the conferences described by Mr. Sines preliminary to the actual redispatching work?

A. I did, not in all of them but in some of them.

The Court: All of them affecting your division?

A. As I remember, your Honor, we were called to San Francisco for a conference preliminary or prior to beginning this work and that is the conference to which I am referring. Then when we actually went to Los Angeles to begin the work, we had several conferences as to the [fol. 2752] methods we would use, which were naturally being something new to us, we had to come to some agreement so we would be in accord with our connecting divisions.

Mr. Mason:

Q. I think the Court asked you if you participated particularly in all the conferences relating to the handling of the redispatch operation on your division?

A. I did.

Q. Did you in your conduct of the redispatching study, referring particularly to the 1938 study for the Rio Grande division, follow the same principles and practices which were outlined and described in Mr. Sines' testimony?

A. I did. There may be some slight variations.

Q. What would those variations relate to?

A. As well as I remember Mr. Sines stated in the run of these redispatched trains a differential of 10 per cent or less was disregarded.

Q. You mean a differential of 10 per cent or less in relation to the tonnage to engine rating?

A. Yes, and I broke mine at 10 percent. In other words, if a redispatched train had 90 per cent and the actual train had 80 per cent, then I allowed the redispatched train five minutes longer to make the run from Lordsburg to Wilna and two minutes longer from Myndus to Aden.



[fol. 2753] Q. Suppose the differential was the other way, expressed in ratio of tonnage to rating, the redispatched trains were 10 per cent or more lighter than the actual trains, did you make the same differential in time in favor of the redispatched trains?

A. I did.

Q. Did you make other differentials at other points along the line?

A. I did not use any differential on the westward trains out of El Paso because there were not enough of those trains operated where the differential was more than 10 per cent. The usual rating or the usual loading of our manifest trains was two or three or four per cent lighter than they had upon the actual operation.

Q. That is your redispatch manifest trains expressed in ratio of tonnage to engine rating were two to three to four per cent lighter than the actual trains?

A. That is correct, generally speaking. I made no difference in the running time of the westward trains. I might correct that by saying as a usual thing it was not much over that amount of difference. It might have been heavier or it might have been lighter, but as a usual thing the load- [fol. 2754] ing was about what we are attaining at present.

Q. Have you seen a copy of Mr. Sines' exhibit No. 197 showing present and proposed siding capacities?

A. I have.

Q. Did you participate in the conferences at which the siding extensions for the purpose of the redispatching study were determined upon?

A. I did.

Q. Will you look at exhibit No. 197, I take it you have examined it before?

A. I have.

Q. Will you say whether or not having particular reference to the district between Lordsburg and El Paso on the Rio Grande division the siding extensions and increases in sidings there shown are necessary for the purpose of permitting the operation of trains of the lengths contemplated by the redispatching study of 1938?

A. They are.

Q. Does the showing there represent your own best judgment as to the extensions which would be required or were required for that purpose?

A. Yes, sir.

The Court: In other words, you would only have to increase your siding capacity on eight stations between El [fol. 2755] Paso and Lordsburg?

A. That is correct.

The Court: We will take our mid-afternoon recess at this time.

(Thereupon a short recess was taken, after which proceedings were resumed as follows.)

[fol. 2756] The Court: You may proceed.

Mr. Mason: Mr. Herrell, you heard the reference by Mr. Sines, to redispatching studies undertaken involving the year 1940?

A. I did.

Q. Did you participate in any such studies?

A. I did.

Q. Did you perform the same character of work in connection with those studies as in connection with the 1938 studies?

A. I did.

Q. In the same manner?

A. I did.

Q. Now, referring first to the 1940 study, in which the long trains actually operated were redispatched as short trains, did you prepare redispatch train sheets?

A. Yes, sir.

Q. Receiving the traffic at Lordsburg in the same manner?

A. Yes, sir.

Q. And handling the traffic over the Tucson division at Lordsburg in the same manner?

A. Yes, sir.

The Court: May I ask if during the month of April, 1940, when these long train operations through Arizona [fol. 2757] were actually being made by the defendant here, if that covered the entire lines of the Southern Pacific across the state or if it was merely from Tucson west? I am merely asking that of counsel.

Mr. Mason: It covered the entire territory. I think it also included some operations on the South line, although I was about to ask the witness.

Q. Did the redispatching study, Item No. 5, of Mr. Sines' exhibit No. 496, relate also to operations on the south line?

A. I don't believe it did as to freight trains, Mr. Mason, for the simple reason that during April, 1940, we were handling slag in large quantities, and that is a very heavy product. I didn't have much opportunity to fill the trains beyond 70 cars. Now, I may not be exactly correct in that statement, but that is, as I remember it at the present time.

Q. Do you recall whether in April, 1940, there was any operation of trains in excess of 70 cars on that part of the Rio Grande division within Arizona?

A. Yes, there were some.

Q. And to the extent that such trains were operated they were redispatched to 70-car maximum?

A. They were.

[fol: 2758] Q. You participated in that study?

A. I did.

Q. In the same manner that you have described for the 1938 study?

A. Yes, sir.

Q. When you had completed the redispatched train sheets, Mr. Herrell, which I understand were all your own personal work—

A. That is correct.

Q. —what did you do with them?

A. I left them in San Francisco.

Q. Did you leave them with any particular person?

A. Mr. Sines.

Q. You delivered them to Mr. Sines?

A. I did.

Q. Does that apply to all of the studies that you have participated in?

A. That is correct.

Q. Now, did you participate in the redispatching study for 1940 which is mentioned at Item 6 on Exhibit 196, the redispatching of the trains into still longer trains with the use of A. C. power and extended sidings?

A. I did.

Q. And in the same manner as you have described for [fol: 2759] the 1938 study?

A. Yes, sir.

Q. Were the entries made by you in the redispatch train sheets checked with or by anyone else to determine whether

the operation had been conducted in accordance with the principles established for the redispatching study?

A. No, I believe I was wholly responsible for that. At times it was probably necessary to confer with Mr. Sines. If so, I did.

Q. Did you check them over yourself to be certain that you had followed the proper principles and all of the other conditions contemplated?

A. I did.

Q. Can you say whether or not you followed those principles and complied with the conditions contemplated for the redispatching study?

A. To the best of my ability and knowledge I did.

Q. I think I have overlooked also the passenger redispatching studies, Items 2 and 3. Mr. Herrell, you heard those mentioned by Mr. Sines, referred to in his testimony in connection with his Exhibit 196?

A. I did.

Q. Did you participate in those studies?

[Not 2760] A. Yes, sir.

Q. Did you make entries on redispatch train sheets for that purpose, for the purpose of the passenger redispatching studies?

A. No, sir, they were not made on what we call train sheets, they were on, I believe, another form was used for that, a white sheet.

Q. You made the redispatch entries directly on the white sheet, did you?

A. I won't say that I made all of them.

Q. Well, in so far as the Rio Grande division is concerned, did you either make them or supervise their making?

A. I did.

Q. Did you make any check of the entries which were made by any other person?

A. Yes, sir.

Q. What other person made them, another dispatcher working under your supervision?

A. Another dispatcher.

Q. Will you say whether or not the entries made in so far as they relate to the Rio Grande division which form the passenger redispatching study of 1938 represent your own best judgment?

A. They do.

Q. Did you participate in the analysis of passenger operation [fol. 2761] tions, Item No. 3, on Mr. Sines' exhibit 196?

A. May I see that, please? Yes, sir.

Q. And in so far as that analysis relates to the Rio Grande division or points on the Rio Grande division, what does it represent as to your own efforts?

A. The same as I would have done it had I actually done the work, as it was under my supervision.

Q. Does it represent your own conclusions gained from an examination of the train sheets and other documents?

A. It does.

Q. Had there been supplied to you a statement showing the rating of A. C. 8 locomotives, over the Rio Grande division, or over those portions of the division which are involved in the redispatching study?

A. I had it, yes, sir.

Q. Generally speaking, what was the rating of AC-8 locomotives in tons or by percentage, as compared to the F-4 type locomotive?

A. Approximately 150 per cent of the F-4 type. The rating of the AC-8 between Lordsburg and El Paso is 12,000 M's.

[fol. 2762] Q. 12,000 M's of 1000 pounds each?

A. Yes, sir.

Q. How does the rating of the AC-8 locomotive compare with the rating of the S. P. type locomotive of the 5000 numeral series?

A. The rating of the 5000 series is 8,850 M's between Lordsburg and El Paso, which would make the AC-8 approximately 135 per cent greater.

Q. Did you work with those ratings, with that rating of the AC-8 locomotive in the redispatching studies in which those locomotives were employed?

A. I did.

Q. Mr. Herrell, I show you a bound volume of documents and ask you to state for the record what that bound volume is?

A. This is the Rio Grande Division train sheets for the month of June, 1938, of actual operations.

Q. Now, does that include the district between El Paso and Lordsburg?

A. It does; this is it here.

Q. Are there a separate group of the train sheets?

A. Yes, sir.



Q. As well as the district between Tucson and Douglas and Tucumcari and El Paso?

A. Between Tucson and El Paso via Douglas, and El [fol. 2763] Paso to Tucumcari, and El Paso to Lordsburg.

Q. If I understand correctly, the El Paso to Lordsburg sheets were the ones you particularly used in the redispatching study covering 1938, the month of June?

A. That is correct, also the train sheets from Tucson to El Paso via Douglas.

Q. For what purpose, with respect to the movement?

A. In June, 1938, we handled long trains on the south line, we moved some refrigerators via the south line which were in actual practice moved over the north line.

Q. So that you operated redispatched trains over both lines in excess of seventy cars?

A. In June, 1938, we did.

Mr. Mason: Your Honor, we now tender and I ask the record to show the tender of actual train sheets for the Rio Grande division for the month of June, 1938, for the examination and use of opposing counsel for the purpose of cross-examining the witness.

Q. Now, I wish you would select, if you will, the redispatch train sheets for the Rio Grande division covering the month of June, 1938, concerning which you have previously testified.

[fol. 2764] A. These train sheets are for the district Lordsburg to El Paso for the month of June, 1938.

Q. Do you also have the redispatch train sheets for the district Tucson to El Paso via Douglas for the same month?

A. They are here.

Mr. Mason: Your Honor, we now tender to opposing counsel, and I ask that the record show the tender of the redispatch train sheets for the Rio Grande division for the month of June, 1938, for the two districts mentioned. Now, do you have before you a volume containing the Rio Grande division train sheets for actual operations for the month of August, 1938?

A. I have.

Mr. Mason: Will you hand that to Mr. Strauss, please? May the record show the tender of the August, 1938, train sheets as well covering the actual operation?

Q. Do you have also here before you, Mr. Herrell, the re-dispatch train sheets for the Rio Grande division covering the month of August, 1938?

A. I have.

Q. Now, are those the re-dispatch train sheets concerning which you have previously testified?

[fol. 2765] A. They are.

Mr. Mason: Will you please hand those likewise to Mr. Strouss, and may the record show that these re-dispatch train sheets for August, 1938, are likewise tendered at this time.

Mr. Strouss: Of course, these records don't show the traffic available at the point of origin of the train.

Mr. Mason: The showing of the traffic available will be made, it will be supplied for the record.

Mr. Strouss: I want to say this to the Court now, I don't think it is incumbent upon me to have loaded on me a bunch of records if that is not available. I think if Exhibit 198 is to be at any time admissible, I doubt if it can be, but there is one further objection I want to make, that it assumes facts not in evidence. As Mr. Baker has testified that, of course, in dispatching trains it is necessary to know the traffic available, when it arrived, and the character of that traffic, and for opinion evidence to be given upon a set of facts or an experiment that has not been made, but the opinion as to what the result of that experiment would be if made, certainly, all of the facts that are necessary to be [fol. 2766] known with respect to that must be put in evidence, including here the traffic available and when it became available, the tonnage, the tonnage in the trains actually operated and the tonnage in the trains under the assumed or re-dispatched operation. Now, I don't think that that is work that they can put on to me to dig out. That is a matter that is necessary for the admissibility of their evidence.

Mr. Mason: Of course, we put this information in the record by witnesses who are competent to put it in, not necessarily all at once. We have developed by the last two witnesses their part in the re-dispatching operation.

The Court: There is nothing before the Court now.

Mr. Strouss: Of course, I am making the further objection, and I have prefaced it by advising counsel what the purpose of that objection is.

Mr. Mason: We are glad to have the advice that the statement as to the traffic available will be demanded. I think, as a matter of fact, we undertook several months ago to furnish that information to opposing counsel.

Mr. Strouss: I don't think that I asked for that. As I say now, I don't think that that is a matter for me to dig out. As the Court has said, that is not before us at the [fol: 2767] present time.

The Court: You may proceed.

Mr. Mason: I would like to have you state, Mr. Strouss, just what you mean when you use the term "traffic available," what sort of showing you are going to demand to be made.

Mr. Strouss: I am not going to be unreasonable. I know that it takes a great deal of records but, at least, as to the typical days here I think there should be a showing. No doubt you have the traffic that is in these trains, take the eastbound movement here under redispached operations, you have, of course, you know what your traffic is, that is, in those trains. Now, your records will show when that traffic became available at Yuma, what the character of it is, the tonnage in the train, when it arrived there. That is the information I want.

Mr. Mason: All that appears on the actual train sheets, doesn't it?

Mr. Strouss: I don't think it does on your Tucson division when it arrives at Yuma.

Mr. Mason: Mr. Strouss, what the redispaching study purports to show is the operation not of some more or some less traffic than was operated in the actual trains, but the same cars that were operated in the actual trains. Now, [fol: 2768] what point would it be to show that the actual trains left behind a half dozen cars at Yuma which were not handled in the redispached train. Suppose there were half a dozen cars left behind on a particular day? Would that have any effect on the redispaching? How could it?

Mr. Strouss: It might have some effect on whether that was a proper redispaching or not. Mr. Baker has testified that the time of arrival of traffic has a great deal to do with the redispaching of it.

Mr. Mason: Mr. Baker also testified that the redispached trains left Yuma at practically the same times as the actual trains with which they were matched. Now, that gives

the actual trains a break, a break against the defendant and in favor of the State, if you like.

Mr. Strouss: There is a part of that train that didn't, because if it is a longer train, then actually part of it didn't leave at the same time the actual did.

Mr. Mason: Then, it is leaving ahead, isn't it?

Mr. Strouss: Well, I don't know. That is what I want to find out. I don't think to take a few typical days in this [fol. 2769] operation certainly wouldn't be any great burden.

Mr. Mason: Well, if I understand what you mean by "traffic available" you mean the number of cars, for example, at Yuma on the day the redispershing study started and the number of cars—

Mr. Strouss: And when it arrived there.

Mr. Mason:—that were available to move and when it arrived there. Do you want that information yourself, or do you think it should be made of record here?

Mr. Strouss: I think as a matter of admissibility of your exhibit that it certainly should be made of record to make that exhibit admissible, if it can be made admissible. I don't mean to say that it would make it admissible, but that is one of the factors that certainly would have to be shown before it is admissible.

The Court: Let me get it clear. Do the records which you now tender to counsel showing the actual operations give the information that you think should be available on this assumed operation?

Mr. Strouss: No.

The Court: In other words, what you are objecting to is that the availability of traffic—

[fol. 2770] Mr. Strouss: This is the operation of the trains assuming that the traffic was there to so operate.

Mr. Mason: It just seems to me that Mr. Strouss doesn't understand at all what a redispershing study is. A redispershing study, as the witnesses have testified, is the movement of the same cars which moved in the actual trains by means of redispached trains. Now, of course, if the traffic was there and moved in actual trains, it must have been available to move in redispached trains. That seems so obvious that it doesn't seem to me worth discussing any more. That is the traffic that was there available. If more traffic was there that might have moved, in redispached trains, we have given Mr. Strouss a break and weighted

the scales against ourselves by failing to move it in the re-dispatched trains, but we haven't moved more traffic in the re-dispatched trains than in the actual trains.

Mr. Strouss: Maybe I misstated it. I want to know when the traffic that is moved, of course, it would be the same traffic, that is the testimony at least, the same traffic that was moved by actual was to be moved by the redispach, when that traffic came into Yuma or El Paso and became [fol. 2771] available; I would like to know whether there was any delays in the movement of any of this traffic by reason of this redispach. There is no way of telling that by taking the trains as rebuilt without any information as to when those cars came in. Then I want to know the tonnage. That information probably is on the actual sheets, but whether it is, on the—

The Court: Well, is it on the actual sheets?

Mr. Strouss: Yes, they show their tonnage on the actual. I don't know whether it is on the redistributed.

The Court: Well, this witness should be able to answer those questions.

Q. Mr. Herrell, is the actual tonnage shown on the sheets that depict the actual operations?

A. In most cases, or on the sheets which I worked there is at the top of the train sheet shown the percentage of engine loading on the actual train with which the run was compared, and the percentage of engine rating on the re-dispatched train over the same distance.

Mr. Mason: Is that a reflection of the tonnage, Mr. Herrell? Is the percentage of engine rating a reflection of the tonnage in the train?

A. It is, it is a percentage, the exact M's.

[fol. 2772] Mr. Strouss: You also show with each train the tonnage handled, don't you?

A. This is the actual tonnage, and here is the percentage of engine rating. In other words, this train actually had 37 per cent, and on the redispach he had 44 per cent, he was 13 per cent lighter.

Q. This is one of your redispach sheets?

A. This is one of the redispach sheets.

Q. Is this figure here the tonnage of that train as re-dispatched?

A. That is right, 46 loads and 22 empties.



Q. The actual sheets which show the tonnage of the train actually run?

A. They would.

Q. That is what I mean.

A. Yes. This is not in all instances shown on the eastward trains or on the drags, because we just fill the drags to 125 cars and we usually run about 6,500 M's. You can figure, some estimate empty P. F. E.'s at 51 M's, some will estimate them at 52, and others at 53. I estimated them at 53 M's to the car for empty refrigerators.

Mr. Strouss: Now, I think that we should have the tonnage of all of these trains. That becomes important so [fol. 2773] far as the comparison of helper operation is concerned.

Mr. Mason: There are no helper districts on the Rio Grande division.

Mr. Strouss: I am speaking now of the operation from Yuma to El Paso, there are helper districts in Arizona.

Mr. Mason: We haven't yet tendered the Rio Grande train sheets.

The Court: You may proceed, gentlemen. I don't think there is anything before the Court to rule on.

Mr. Mason: I want to make this reference to yesterday's testimony, page 2625, and the preceding page, 2624. It was stated, in effect, that all of the redispach and actual train sheets and all of the other basic documents covering the actual operations as well as the work sheets in connection with the redispached operations would be made available to counsel. Now, in due course I shall identify through witnesses the basic documents showing the consists of trains arriving at Yuma and the time of their arrival, and the cars of the various types, perishable, manifest, empties, and so forth, which were in those trains, which furnished the basis, as Mr. Baker testified, with which he started [fol. 2774] his redispaching studies at Yuma.

The Court: If that showing is made, you may overcome the objection that Mr. Strouss is now raising.

Mr. Mason: I hadn't intended to make a showing in the record because primarily the redispaching study is the transportation of the same cars.

The Court: I think the Court understands that and I am sure Mr. Strouss does.

Mr. Mason: It is not an attempt to get more traffic over the road at the time, but only to handle the traffic which was actually handled, and with that understanding, the necessity for the times of arrival at Yuma and so forth, it seems to me, disappears because the study doesn't attempt to eliminate or to treat with the times which might have been taken in Yuma as between the arrival of trains from Colton and the departure of such trains from Yuma, except as that feature may be involved in the reconstituting operations of Los Angeles Division trains at Yuma to fit them to Tucson division requirements.

[fol. 2775] Mr. Strauss: Let me suggest this, in order that we might not burden the Court with too much of our troubles at the present time. Suppose you give me the information which I have indicated I want and after recess I can give you some typical days and let me look it over and let me determine whether it is necessary to put it in the record. I haven't any desire to load this record with a lot of unnecessary information.

Mr. Mason: I am perfectly willing to hand these to counsel right now only I wish to identify them. I will give the entire file to Mr. Strauss and let him select the typical days. Perhaps Mr. Sines better identify these, he knows exactly what they are.

B. S. SIXES was recalled as a witness in behalf of the defendant and testified further as follows:

Direct examination (continued).

By Mr. Mason:

Q. Mr. Sines, will you state the character of the documents showing the trains into Yuma and into other division points where trains are made up, which are to be furnished to Mr. Strauss at this time?

[fol. 2776] A. If Mr. Strauss wants them he can have the forms 4216, which are the conductors' wheel reports of the Los Angeles division on the trains entering Yuma. As I explained yesterday, however, we recapped those conductors' wheel reports into recap sheets for the use of Mr. Baker. Those sheets we intend to give to Mr. Strauss. Those sheets show the identification of the train and the

arrival at Yuma and the train split up into perishable cars, merchandise, and manifest Phoenix loads, Tucson and south line shorts, and Bowie shorts—the information that Mr. Baker or the Tucson division chief dispatcher ordinarily has to have when he is casting up his day's business in advance. When Mr. Baker got those trains started out of Yuma, thereafter there wasn't any necessity for further analysis of the conductors' wheel reports except to ascertain the pick-ups and the set-outs as they occurred in actual operation along the road. We made a further analysis of the conductors' wheel reports to determine those and have set them down on these sheets and we intend to give that to Mr. Strauss. We were going to give him the forms 1216 for the whole trip from Yuma to El Paso, if he wanted them, we just didn't get around to it until thirty minutes [fol. 2777] ago.

Q. Do you have those recapitulations, forms 1216, entering Yuma and also at other points?

A. Some of them I have here in the courtroom. I have everything over in the office and all you have to do is ask for it.

Mr. Strauss: I will take this summary you are talking about.

Mr. Mason: The one which we have now and which I am handing counsel covers as I view it the month of August, 1938, which is one of the two months covered by the redispatching study.

Q. Do we have here also the recapitulations for June?

A. Yes, sir, these smaller files are the set-outs and pick-ups enroute.

Q. The documents I have handed to Mr. Strauss are the recapitulation sheets covering not only Yuma but other division terminals as well?

A. In addition to that, there is also a statement I have in my file. I haven't got it here, but it is here in Tucson, showing the business on hand at Yuma as of 12:01 A. M. at the beginning of June and the beginning of August when we said, "Let's start this redispatch."

The Court: The business accumulating from day to day [fol. 2778] thereafter?

A. No, the business that was there at that particular moment when Mr. Baker started his 30-day redispatch. A

few cars that happened to be on hand in the Yuma yard and which had to be accounted for along with thousands of other cars that came in from day to day as the trains were redispached.

Mr. Strouss: That is a small number?

A. Very small.

Mr. Mason:

Q. I take it that all the other cars that came in and were moved out are shown on the train sheets?

A. Yes, they are on the train sheets, but we went to the extra trouble and effort to recap every train that came into Yuma from the west for the two months of June and August, 1938, and for April, 1940. I guess I might as well finish this story. For the westbound business, Mr. Herrell didn't use recap sheets like that but he used forms 1216 and entered that information right on the train sheets themselves, you will find it listed on there, on the redispached train sheets.

Mr. Mason:

Q. Do you wish those forms 1216, which as Mr. Sines has stated were used by Mr. Herrell?

Mr. Strouss: Not if the information is here.

[fol. 2779] Mr. Mason: It is not before you in the recaps because it was not recapitulated.

Mr. Strouss: It is on the train sheets.

Mr. Mason: Yes, it is on the train sheets. I think that is all we have of Mr. Herrell. Do you wish to cross-examine Mr. Strouss?

Mr. Strouss: I think I prefer to have a look at these first.

Mr. Mason: I might call Mr. Baker in order to identify the Tucson division train sheets so he can turn those over to you if you wish.

The Court: Gentlemen, inasmuch as the Court has before it the dispatchers' records of actual movements of trains over the Rio Grande division, not that I have any desire to clutter the record, but do you have any objection to Mr. Herrell at the close of court explaining this system which is followed to the Court?

Mr. Mason: Certainly not.

The Court: Will you be kind enough to do that?

Mr. Mason: Yes.. You may step aside for the moment, Mr. Herrell. Will you take the stand, Mr. Baker?

[fol. 2780] G. C. BAKER resumed the witness stand for further direct examination as follows:

Mr. Mason:

Q. Mr. Baker, when you had completed the entries or the supervision of the entries made by the truck dispatcher upon redispatch train sheets concerning which you have previously testified, what did you do with those train sheets?

A. I turned them over to Mr. Sines.

Q. Have you made an examination of exhibit No. 197, the exhibit showing siding extensions?

A. Yes, I have.

Q. Did you participate in conferences or a conference with Mr. Sines and others with respect to the question of the siding extensions which would be required on the Tucson division for the purpose of operating long trains according to the plan contemplated during the months of June and August, 1938?

A. Yes.

Q. Will you say whether or not the showing of siding extensions and of sidings to be extended as indicated on exhibit No. 197 represents your own view and judgment as to the sidings which would be required and the siding extensions which would be necessary for that purpose?

[fol. 2781] A. That is correct.

Q. Mr. Baker, I show you a volume of documents bearing on its outside cover the style "Gila to Tucson, Tucson to Lordsburg, August, 1938," and ask you whether this volume contains the train sheets of actual operation for the month of August, 1938, upon those portions of the Tucson division identified by the title?

A. They do.

Q. Will you please hand that to Mr. Strauss?

(Witness hands document to counsel.)

Q. I show you also a bound volume of documents bearing on its outside cover, "Yuma to Gila, Wellton to Phoenix,



Tucson to Nogales, August, 1938," and ask you if that is a volume of the original train sheets of the Tucson division for the month of August, 1938, covering those parts of the Tucson division referred to in the title?

A. It is.

Q. Will you hand that also to Mr. Strouss?

(Witness hands document to counsel.)

Q. I show you a bound volume of documents not contained in a cover and ask you whether this is the redispatched train sheets covering the movement of redispatched trains for the district between Yuma and Gila during the month of August, 1938, the first sheet bearing the [fol. 2782] date, Sunday, July 31, 1938?

A. It is.

Q. Will you hand that to Mr. Strouss?

(Witness hands document to counsel.)

Q. I show you now a volume of documents not bearing any title but apparently relating to the operations on the Tucson division between Gila and Tucson and ask you if those are the redispatched train sheets covering the redispatched operations on the Tucson division between Gila and Tucson during the month of August, 1938, the top sheet bearing the date, July 31, 1938?

A. They are.

Q. Will you hand that also to Mr. Strouss?

(Witness hands document to counsel.)

Q. I show you a volume of documents relating to the Tucson division apparently being the redispatched train sheets covering the operation of redispatched trains during the month of August, 1938, for the district Tucson to Lordsburg and ask you if those are the redispatched train sheets for that month?

A. They are.

Q. Will you hand that also to Mr. Strouss?

(Witness hands document to counsel.)

[fol. 2783] Q. I show you two volumes, one of them bearing title, "Gila-Tucson, Tucson-Lordsburg, June, 1938," and the other, "Yuma-Gila, Wellton-Phoenix, Tucson-Nogales, June, 1938," and ask you if those two volumes are

the volumes containing the actual train sheets covering actual operation on the Tucson division for the districts referred to in the titles for the month of June, 1938?

A. They are.

Q. Will you please hand those to Mr. Strauss?

(Witness hands document to counsel.)

Q. I show you a volume of documents the first of which bears the date, May 31, 1938, and refers to the district between Tucson and Lordsburg and Gila and Tucson and I will ask you if this volume contains the train sheets covering the redispatched operations for the month of June, 1938, between Gila and Tucson and between Tucson and Lordsburg?

A. They do.

Q. Will you hand that to Mr. Strauss?

(Witness hands document to counsel.)

Q. I show you a bound volume of documents the first of which bears the title, "Tuesday, May 31, 1938," and refers to the district between Yuma and Gila and also between Wellton and Phoenix and ask you if this volume contains the redispatched train sheets for the month of [fol. 2784] June, 1938, concerning which you have testified?

A. They do.

Q. Will you hand that to Mr. Strauss, please?

(Witness hands document to counsel.)

Q. Are the documents which you have just identified and handed to opposing counsel the actual train sheets or the redispatched train sheets, as the case may be, used by you or prepared by you or under your supervision and concerning which you testified earlier?

A. Yes, they are.

Mr. Mason: Your Honor, we ask that the record show the tender of these documents to opposing counsel. I also tender to Mr. Strauss for his use a copy of employees' timetable No. 109 for the Tucson division which is identified as having taken effect February 13, 1938, at 12:01 A. M., and I will ask Mr. Baker if that is the employees' timetable which was in effect in June and in August, 1938, at the period covered by the redispatching study of 1938?

A. Yes, that is the timetable.

Mr. Mason: Will you hand that to Mr. Strouss also?

(Witness hands document to counsel.)

[fol. 2785] Mr. Mason: Your Honor; I should like to have the record show that we have in the courtroom available for the use of opposing counsel, if they so desire, the conductors' time returns and delay reports covering the period to which the 1938 redispaching study relates on the Tneson division. I have as sample bound volumes here for the inspection of counsel and all the remaining time returns and delay reports will be made available if he so desires. Will you indicate if you do desire?

Mr. Strouss: When I finish my reading this evening.

Mr. Mason: Whenever you wish them, if you will advise us we will be glad to make them available. I also wish to state for the record we have in the courtroom three bound volumes of the white work sheets A together with certain recap sheets, the work sheets being numbered consecutively exclusive of the recap sheets from number one to 848, inclusive. These sheets, it appears, are similar in form to the typical sheet which was marked for identification as defendant's exhibit No. 198 and we tender these work sheets for the examination and use of opposing counsel.

Mr. Strouss: I would like to have those, I would like to have those with me tonight.

[fol. 2786] Mr. Mason: You are quite welcome. Mr. Sines asked me to say they are much easier to read and understand than the redispached train sheets and, as he testified yesterday, they have been prepared directly from the redispached train sheets and from the actual sheets, of course.

Mr. Strouss: I would like to have those, I will take the Tneson division train sheets and redispached train sheets tonight, together with these recaps of the traffic into Yuma. There is no use in me taking the Rio Grande tonight.

The Court: I think we should recess now so you will have time to do that. The court will be at recess until ten o'clock tomorrow morning.

(Thereupon the court stood at recess until ten A. M., Thursday, January 23, 1941.)

[fol. 2787] January 23, 1941, Ten o'clock A. M.

Proceedings were resumed at this time as follows:

Mr. Mason: Your Honor, I will ask Mr. Sines to resume the stand for a moment, to make one correction in yesterday's testimony, and also to identify an exhibit.

B. S. SINES was recalled to the stand and testified further as follows:

Direct examination (Continued).

By Mr. Mason:

Q. Mr. Sines, at page 2666 of the recorded proceedings, you were asked in respect to the scope of the redispatching studies for 1940, particularly as to whether the South line via Douglas, was included in either of them, and I think that you stated that it was not. Do you wish to make a correction in that?

A. That is right, the redispatching study covered by Item 5 on Exhibit 196 did include the South line because some long trains had been run during the period between April 4th and April 30th. However, the redispatching study covered by Item 6 did not include the South line.

Q. That is, you didn't attempt to redispatch those long trains on the South line into still longer trains?

A. No.

Q. Now, I will ask you to refer to your exhibit No. 196 and particularly to Item 3 of that exhibit.

A. Yes.

Q. I recall that in your testimony you referred to the analysis of the passenger trains, Los Angeles, California, to El Paso, Texas, and so forth. Has that analysis been compiled in the form of an exhibit?

A. It has.

Q. Will you state the title of the exhibit?

A. "Los Angeles, California, to El Paso, Texas; Analysis of Passenger Operations for Year 1938, Showing Unnecessary Interference, Switching Delay, Adverse Routing, Reassignment of Passenger Car Space, Splitting and Consolidation of Trains, Cancellation of Assigned Car Movements, Excess Passenger Car Miles and Additional Helper Service Caused by Observance of Arizona Fourteen-Car Limit Law, Year 1938."

Q. That title then, corresponds substantially to Item 3 [fol. 2789] of Exhibit 196, does it not?

A. Yes.

Q. The exhibit to which you have referred consists of 33 sheets?

A. Yes.

Q. And you have read the title from the first sheet?

A. I have.

Mr. Mason: May we have this exhibit identified as Defendant's Exhibit No. 199?

The Court: It may be marked for identification.

The Clerk: Defendant's Exhibit 199 for identification.

Mr. Mason: Did you prepare or supervise the preparation of No. 199 for identification, Mr. Sines?

A. I prepared a large part of it and supervised the preparation of the entire exhibit.

Q. What other persons worked with you in the preparation of Exhibit 199?

A. The train dispatchers heretofore referred to in my description of the redispatching party, and the chief dispatchers of the three divisions, Mr. J. A. Day, Chief Dispatcher of the Los Angeles division, Mr. Henry Cassady, Chief Dispatcher of the Tucson division, and Mr. Herrell, [fol. 2790] Chief Dispatcher of the Rio Grande division.

Q. Has the exhibit been checked by any or all of those gentlemen?

A. It has been checked by each of the three chief dispatchers with reference to the territory under his supervision.

Q. Have you yourself checked it as well?

A. Yes.

Q. What underlying documents were used in its preparation?

A. The train dispatchers' train sheets for the entire year 1938 for the territory Los Angeles to El Paso, the passenger conductors' wheel reports for the territory Los Angeles to El Paso for the year 1938, the chief dispatchers' daily message and correspondence files for the entire year 1938, and log books from Yuma, Phoenix and Tucson, these log books being the running record kept by the terminal trainmasters of work performed on trains passing through the terminals.



Q. Are all of those records available for the use of opposing counsel?

A. Yes, they are here in Tucson and are available to opposing counsel.

Q. Where are these records now being kept for the time being?

[fol. 2791] A. In my office across the street, at 90 Church Street.

Q. Are they so arranged so as to be easily inspected or readily inspected by opposing counsel at that place?

A. That is right. We also have some of them stored in fireproof vaults, located on Southern Pacific property down near the station. In addition to the records that I mentioned, we had also the passenger conductors' time returns and delay reports.

Q. Is the passenger conductor's time return and delay report a document similar to the sample sheets in your Exhibit 195?

A. Yes.

[fol. 2792] Q. About how many documents or how much bulk is involved in the underlying records which you have referred to as having been used for the purpose of exhibit No. 199?

A. I imagine it would make a pretty good load for a five-ton truck, thinking of it in volume. It would probably weigh pretty close to five tons also.

Q. I take it it would be possible though hardly practicable, to bring it into the courtroom?

A. We could do it.

Q. Would you prefer to make them accessible to opposing counsel at their present location?

A. I would.

Q. I take it that he would also. Insofar as exhibit No. 199 presents the matters shown upon the train sheets and other underlying documents, will you say whether or not it is a true and correct presentation of the matters shown thereon?

A. It is.

Q. And has been checked for the purpose of determining that it is true and correct?

A. Yes, sir.

The Court: Mr. Sines, this particular exhibit No. 199 has wholly to do with actual operations and nothing to do

[fol. 2793] with the redispached or assumed operations?

A. That is partly true in that it is an analysis of actual operations from the standpoint of interference, delay, switching, and the other things named in the title which would not have been necessary had we not been observing the Arizona 14-car limit law.

Q. But the data are taken from actual records and actual operations?

A. Yes, sir.

Q. You may have drawn certain conclusions here but those conclusions are not drawn from any assumed operations?

A. I will say "assumed" today. We had to assume there was no Arizona 14-car limit in order to find out what would not have been necessary, but in the first instance we had to make a complete record of the moves and movements and all that is based on actual performance.

Q. Last evening you presented here in connection with another exhibit the dispatchers' sheets covering the redispach study that was made?

A. Yes, sir.

Q. Is any of this data in this exhibit taken from any of those redispached sheets or is it all from actual operation? [fol. 2794] A. No, it is not all from actual operation. There always has to be the assumption that such and such would have been unnecessary had we not been required to comply with the 14-car limit.

Q. Were any of the redispached sheets which were referred to in yesterday's testimony used in the compilation of this particular exhibit?

A. The redispached sheets that we were talking about yesterday had to do with a freight redispaching study, in June and August, 1938, and we set up assumed passenger operations or redispached operations along with our redispached freight operations for those two months. Some of those redispached operations are abstracted into this exhibit.

The Court: You may proceed.

Mr. Strouss: I had a question along the same line I intended to ask, it puts at a little different than the Court has asked it. Disregarding the title of your different sections and subdivisions, the matter which is set forth in those titles is an abstract or summary of actual records?

A. Yes, everything occurred actually that is listed on this exhibit?

Q. The only thing that is not in the summary or abstract of record is the conclusion which is expressed in the [fol. 2795] titles?

A. That is right.

Mr. Mason:

Q. I am going to ask you, Mr. Sines, if the conclusion which is expressed in the title or otherwise in the exhibit as to the possibility of having avoided these occurrences represents your own conclusion arrived at after examination of the train sheets and other underlying documents?

A. Primarily it represents conclusions of the chief dispatchers. Understand in this redispatching study not only the passenger redispatching study but the freight redispatching study, I was in the position of saying, "Me, too," after they had shown me that such and such a redispatched operation was a practical common-sense operation. I insisted upon having these things proven to me, but the chief dispatchers are the ones responsible in the first instance.

Q. Do these statements represent the conclusions of the chief dispatchers as submitted to you and concurred in by you?

A. Yes.

Mr. Mason: I will ask permission to withdraw Mr. Sines at the present time. I want to substantiate the exhibit by [fol. 2796] calling the chief dispatchers as well.

Q. Mr. Sines, in the course of the preparation of exhibit No. 199 for identification, did you prepare work sheets as an intermediate step to the preparation of the final exhibit?

A. We did.

Q. Have you those work sheets in court with you?

A. I have.

Q. Approximately how many work sheets are there?

A. I suppose there are in the neighborhood of forty or fifty work sheets in this bundle that I have in my hand.

Q. The work sheets themselves are approximately the size of an ordinary train sheet, are they?

A. It is half of a train sheet.

Q. Are those work sheets available for the use of opposing counsel in their study and possible cross-examination upon exhibit No. 199 if the exhibit is received?

A. They are.

Q. Will you tender those to Mr. Strouss?

(Witness hands document to counsel.)

Mr. Mason: May the record show that the work sheets referred to by the witness have been handed to opposing [fol. 2797] counsel.

Mr. Strouss: If you are going to take Mr. Sines off the stand for the purpose of showing that these conclusions are the conclusions of the chief dispatchers—

Mr. Mason: I have asked Mr. Herrell already by identifying this by item No. 3.

Mr. Strouss: I will say to you now that while I think there might be some objection to their testifying, it is their conclusions. I am not going to object to this exhibit on the ground, when you have offered it, that it is a conclusion because I understand from Mr. Sines that the facts from which those conclusions are drawn are in the exhibit.

Mr. Mason: I think they are recited in some fashion.

Mr. Strouss: I will have an opportunity later if I so desire to examine the chief dispatchers as to this exhibit.

Mr. Mason: Yes. In view of what you have said, if it may be understood that a proper foundation has been considered laid, I will offer the exhibit and that will dispense with some of our legal gymnastics here.

The Witness: I think I might make an explanation which [fol. 2798] would assist Mr. Strouss.

Mr. Mason: I wish you would.

The Witness: These work sheets which I have handed Mr. Strouss contain 173 numbered items which were analyzed in full detail during the year 1938 and which are recapped onto exhibit No. 199 for identification. A complete history of each occurrence will be found in the work sheets. The recapping is made onto the exhibit. It will be necessary to examine exhibit No. 199 for identification along with the work sheets in order to get the complete story.

Mr. Mason: In view of what has been said I will now offer exhibit No. 199 as defendant's exhibit.

Mr. Strouss: I have no objection with the understanding I will have the opportunity to cross-examine later.

The Court: It may be admitted in evidence. Counsel for the State will be given full opportunity not only to cross-examine Mr. Sines but the chief dispatchers who aided in the preparation of this exhibit.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 199.")

[fol. 2799] Q. Mr. Sines, will you take up Exhibit 199. Perhaps a little explanation as to the construction of the exhibit itself would be in order. What are sheets 1 and 2 of the exhibit?

A. Sheets 1 and 2 are summary sheets of the other 31 sheets.

Now, taking section 1 on sheet 3 as an example, how do you summarize the showing on section 1 so as to bring it forward to the summary which appears with the same identification on sheet 1?

A. The title of section 1, sheet 3, is brought forward to the first summary sheet, sheet 1, and repeated verbatim. The totals of section 1 shown on sheet 3 are then brought forward to sheet 1 in the appropriate columns. For instance, character of interference, column A, sheet 1, is shown at switching, and a review of sheet 3, column E, shows that in all instances the character of interference is switching, except in the very first one, and even there the operation of splitting up trains is a switching operation. The number of instances, column B, is indicated as 12 on sheet 1, and the total of column A also indicates 12 on sheet three.

The Court: Now, this summary covers the passenger [fol. 2800] operations for the entire year 1938 in the territory shown?

A. Yes, sir.

Mr. Mason: Now, is each of the other sections summarized on sheets 1 and 2 brought from the title of the section in the same manner as you have explained for section 1?

A. That is right.

Q. How did you arrive at the total shown at the foot of sheet one?

A. That is a mathematical computation the same as all the figures above.



The Court: Well, Mr. Sines, would you be kind enough, on sheet 3, to elaborate just a little on the totals shown there, analyze that to the Court, please. I am referring now just to the totals.

A. Yes. There were twelve items, or rather twelve instances during 1938 when we discovered interference as indicated in the title of section one. The dates of those occurrences are shown in column B. The trains involved are shown in column C by number, and counting the number of trains, it will be found there were twenty-three trains.

The Court: In other words, there were twelve instances [fol. 2801] when there was this conflict, and it involved 23 trains, is that it?

A. That is right. The reason for that is that when a train approaches the Arizona-New Mexico state line with a consist in excess of fourteen cars, or when it is known that the train after crossing the line is going to pick up cars which would put its total over fourteen cars, some provision must be made in advance of crossing the state line; so that train must set out cars which will be handled in some other train whose limit will not exceed fourteen cars, or another extra train must be run to take care of the excess cars, so, in almost all instances it means there are two trains involved; the train surrendering the cars and the train picking up the extra cars.

The Court: Now, the other totals to the right.

A. Yes. As I recall, the train dispatcher's train sheet, or else it was the conductor's delay report, some one of the records that I mentioned that we had at hand indicated that in occurrence No. 111 one of the trains had been delayed ten minutes at Lordsburg, and another one had been delayed eight minutes while this exchange of cars or making up of new trains occurred, so we added that up and we have just [fol. 2802] the two trains which were delayed eighteen minutes, or an average of nine minutes per delay. Now, I said that speaking of columns G and H, I said that usually it means one train is going to surrender some cars when it approaches the state line and we have added up the number of cars which had to be set out, and you find there were 29 cars that were set out by trains coming up to the Arizona state line. There were 35 cars picked up, however, and that is because when the second section is operated, or when an extra section is operated, we don't like

to put the passenger car right up against the engine, and we put a buffer car in between the engine and the cars with the passengers in. Sometimes that car is an empty car or it may be a baggage car or an express car, but the net result is that we are going to handle more cars than we ordinarily would have handled from one point to another, and in the six instances here we had to take another car for part or all of the distance across Arizona.

Mr. Mason: Now, is the showing in sections 8 to 14 inclusive somewhat different from that in sections 1 to 7B inclusive? You use a different form of summary, I notice, on sheet 2.

A. Yes.

[fol. 2803] Q. How do you obtain the totals which are indicated there?

A. That is true, Mr. Mason, the character of information abstracted in sections 8 to 14 is somewhat different than the information in sections 1 to 7B, and the reason for that is that generally in sections 1 to 7B we are concerned primarily with trains, whereas, in sections 8 to 14 we are analyzing movement of individual cars. Now, you asked some question about a total, Mr. Mason.

Q. How were the total figures arrived at in the totals shown on sheet 2 for each of the items?

A. Well, it would be necessary to refer to section 8, for example, which is found on pages 15 and 16 of the exhibit and where the totals found at the foot of sheet 16 are either the result of counting or of adding mathematically the figures appearing above.

Q. Is the same process followed as to each of the other sections other than section 14?

A. Yes.

The Court: Referring there to section 8 for a moment. You use the expression "unnecessary delay to deadhead equipment." Just what do you mean by that, Mr. Sines?

A. Equipment not in service, equipment which is being [fol. 2804] moved from one part of the railroad to another part of the railroad, or from one part of the country to another part of the country in anticipation of its need at some other point, or following a trip in service.

Mr. Mason: Is Pullman equipment ever moved in that fashion, Mr. Sines?

A. Yes, a large part of this equipment noted here as dead-head was Pullman equipment.

Q. Why would that be moved deadhead?

A. Well, that is the result of special movements, sometimes conventions on the Coast, taking large parties to California. When they get over there the parties may break up, you don't need as many cars in California to take that group back all at one time as when going over there.

The Court: That would be comparable to your empties in your freight operations?

A. That is right.

Mr. Mason: Have you any further questions, Mr. Strouss?

Mr. Strouss: Not at the present time.

Mr. Mason: We will withdraw the witness with the understanding, of course, that cross-examination may be had of any of the witnesses who would testify in connection with this exhibit.

[fol. 2805] Mr. Strouss: I want to say that there is a lot of stuff now that is coming up and I am going to simply have to have time to prepare for cross-examining the witness.

The Court: That is what we have the week-end for.

Mr. Strouss: I am afraid it is going to require more than a week-end.

Mr. Mason: Do you care to cross-examine any of the witnesses who have so far testified?

Mr. Strouss: The only one that I could is Mr. Herbert.

Mr. Mason: He is going to appear again in connection with some additional exhibits.

Mr. Strouss: I worked as much as I could last night in reading this stuff.

Mr. Mason: We are somewhat anxious to get Mr. Baker released as soon as possible because his superior has been taken to the hospital in that department.

Mr. Strouss: I could probably take him and ask some questions now, with the understanding that if later I wanted him to come back, I could have him. This exhibit that has just gone in—

Mr. Mason: Mr. Baker didn't participate, as I recall, in exhibit 199.

[fol. 2806] Mr. Strouss: Oh, he didn't!

Mr. Mason: Although it was submitted to him for review and check. Mr. Cassidy actually participated in its preparation.

Mr. Strouss: I think I could probably take him for cross-examination. Of course, I don't like to say that I will release him entirely because I don't know what may come up in connection with these assumed operations.

Mr. Mason: He can come down here for further cross-examination.

Mr. Strouss: That is just what I can't anticipate in matters that may still come up.

Mr. Booth: I would like to state, in fairness to counsel, that we would like to have all of the cross-examination of our witnesses concluded before the close of our case, which is reasonably near, and particularly because some of our witnesses are reserve officers and we don't know what may happen about their being called into service during the vacation. We don't want their testimony to be in the position where it might be subject to be stricken out because of the lack of opportunity for cross-examination.

Mr. Strouss: I appreciate that, Mr. Booth. As you realize, these records that are given me, there is just so [fol. 2807] much that a person can do, and that is all.

Mr. Booth: There is a limit to a man's eyes.

Mr. Strouss: That is right. I have the profile maps over there that I am trying to get an opportunity to go through, and whenever I would get a few minutes to check and go over the testimony of the witnesses who have testified to prepare for cross-examination, but this matter that came up here yesterday and today, there is so much of that, I will have to go into those records before I will know what I am going to do.

The Court: That is apparent. I am sure that can be worked out, Gentlemen.

Mr. Booth: We have tentatively thought that we might be able to close our case by the 7th of February with the possibility of its running over into the next week, and making allowance for some cross-examination. Of course, counsel may conclude that the best cross-examination is rebuttal. I don't know.

The Court: Mr. Booth, when you say the 7th of February, you mean that would be closing your defense in this matter, including the safety angle, by that date?

Mr. Booth: Yes. It might be the following week, but we [fol. 2808] had hoped that, making allowance for cross-examination, we might be able to conclude by the seventh of February. It is in sight now. It is right in the immediate prospect; we can count noses and just about estimate the length of time that will be required for our direct examination.

Mr. Strouss: The reason I mentioned the possibility of time this morning, when Mr. Booth told me last night that they might finish by the seventh, of course, as your Honor mentioned, we have these week-end recesses, but I have an office in Phoenix that I do have to at least drop into occasionally, but when you told me that last night—it sometimes will save time to take an extra recess and I thought it may be possible here that we can save time, I can tell a little later, by taking the recess a day or two earlier so that I can have a chance to examine these and see what I would want.

Mr. Booth: Yes, we want to accommodate ourselves to counsel. That might be the solution, to have a whole week's recess and then come back.

The Court: The Court is of the opinion that that would be the best way, to give you a week intervening between the close of their present defense and your cross-examination of these Southern Pacific officers and employees.

Mr. Strouss: That is fine. If they prefer to have me take that time earlier, it doesn't make any difference to me, but it is apparent to me now that I am going to have to ask for some time in there. I appreciate that counsel has been very kind in that respect.

Mr. Booth: Yes, this testimony is being poured in in a very highly concentrated form.

The Court: You may proceed. Call your next witness.

Mr. Mason: Do you wish to go on with Mr. Baker now?

Mr. Strouss: I started to say that I think at two o'clock I can take him. I believe I can probably complete it so he won't have to come back at all.

Mr. Mason: Then we will call Mr. Cassidy at the present time.

The Court: Come forward.



[fol. 2810] HENRY W. CASSADY was called as a witness in behalf of the defendant and being first duly sworn testified as follows:

Direct examination.

By Mr. Mason:

Q. Will you please state your name and employment to the reporter?

A. Henry W. Cassady, chief dispatcher, Tucson division, Southern Pacific Railroad.

Q. Are your headquarters at Tucson, Mr. Cassady?

A. Yes, sir.

Q. How long have you been chief dispatcher of the Tucson division?

A. Since the twenty-fourth day of August, 1939.

Q. Were you previously in service as a dispatcher or assistant chief dispatcher on the Tucson division?

A. Yes, sir, since the twentieth of February, 1917.

Q. What was your previous experience in railroad service prior to 1917?

A. I had worked as agent, operator, car distributor, chief dispatcher.

Q. You have been at Tucson in the dispatching force of [fol. 2811] the Tucson division since 1917?

A. I have, yes, sir, except for a short period of time I was detached from the dispatcher's office and used as a train rules examiner.

Q. What duties does the train rules examiner perform?

A. He examines all employees as to their knowledge of the operating rules of the company.

The Court: Is that an individual examination that you make?

A. Individual personal examination, yes, sir.

Q. You don't conduct a class or school in connection with it?

A. No, not in that case, that is in the case of a new employee or a promoted man, a brakeman to a conductor or operator to a dispatcher, fireman to an engineer.

Q. You test his knowledge of the rules and regulations of the company covering his position?

A. That particular position, yes, sir.

Mr. Mason:

Q. You have been chief dispatcher since 1939 and prior to that were assistant chief dispatcher at Tucson?

A. For several years, yes, sir, perhaps ten or twelve years.

Q. You heard the testimony of Mr. Baker as to the ex-[fol. 2812] tent of the jurisdiction of the chief dispatcher at Tucson?

A. I did.

Q. Did you hear his description of the duties and responsibilities of the chief dispatcher?

A. Yes, sir.

Q. And of the trick dispatcher?

A. Yes, sir.

Q. Will you say whether or not that description is applicable to your present position?

A. It is.

Q. Did you hear the testimony of Mr. Sines as to the redispatching study of 1938 relating to the Phoenix line?

A. I did.

Q. Are you the Mr. Cassady referred to in his testimony as having performed or supervised the redispatching of the December business on the Phoenix line in 1938?

A. I am.

Q. For the purpose of the redispatch on the Phoenix line in 1938, did you contemplate the use of any different type of locomotive than was in actual operation in December, 1938?

A. No, I did not.

Q. Did you contemplate any siding extensions on the [fol. 2813] Phoenix line other than at the station immediately north and west of Picacho?

A. No, I did not.

Q. Will you state the name of that station?

A. Topaz.

Q. What, if any, conditions did you contemplate for the purpose of the redispatch as to the availability of traffic at the start and during the course of the month of December, 1938?

A. For the redispatch study we had a yard report showing the cars on hand for movement at both Phoenix and Tucson and for the entire period we moved car for car that was handled via this route.

Q. Did you contemplate there would be any more or less traffic available at either terminal for movement via Phoenix route?

A. No, not in this case.

Q. You were also mentioned in Mr. Sines' testimony, I think, as having participated in or supervised the redispatching studies for the year 1940?

A. That is right.

Q. Were you the chief train dispatcher at Tucson during the months of March and April, 1940?

A. Yes, sir.

Q. Did you supervise the conduct of the two redispatching studies of 1940 which are mentioned on Mr. Sines' exhibit No. 196?

A. I did.

Q. Have you a copy of that exhibit before you?

A. Yes, sir.

Q. I refer you first to item No. 5. At what point did you start your redispatching study of eastward traffic during the period covered by item No. 5 of exhibit No. 196?

A. Yuma, Arizona.

Q. What traffic was handled commencing on April 4th from Yuma?

A. All traffic on hand at Yuma at 12:01 A. M., April 4th, and all arriving and originating at Yuma or Somerton.

Q. Is that the same traffic that was actually handled in the trains operated out of Yuma on April 4th?

A. Yes, sir.

Q. Did you during the period following April 4th operate a number of trains eastward out of Yuma or over the district between Yuma and Gila, Gila and Tucson, with more than 70 cars?

A. Eastward?

Q. Yes.

A. I don't think so.

[fol. 2815] Q. If there were trains operated eastward between Yuma and Tucson of more than 70 cars, what was done with the extra cars in your redispatching study corresponding to item No. 5?

A. They were moved on trains other than the actual train operated.

Q. In the redispatching study, did you observe the 70-car restriction?

A. We did.

Q. In connection with the redispatching study, item No. 5, at what point did you start your redispatching study of westward traffic?

A. Lordsburg, New Mexico.

Q. Did you also redispatch traffic moving westward and arriving at Tucson via south line?

A. We don't have any jurisdiction over the south line on the Tucson division, no, sir.

Q. Traffic handled via south line and coming to your division at Tucson would be included in your westward redispatch?

A. Westward redispatch from Tucson, yes, sir.

Q. Did you actually operate trains westward from Lordsburg or westward from Tucson consisting at times of more than 70 freight cars?

A. Yes, sir.

Q. And in the redispatching study did you observe any [fol. 2816] restriction as to the length of the redispatched trains?

A. We did.

Q. What restriction did you observe?

A. 70-car limit for freight trains.

Q. Did you in the redispatching study handle any more or less or different traffic than was handled in your actual trains during the period from April 4th to April 30th, 1940?

A. The identical same traffic was handled in actual and redispatched.

Q. Does that mean that the same cars were handled?

A. The same cars would not be handled on the same trains, it would be necessary to operate additional trains from time to time in order to take care of the reduction from the over-size trains operated.

Q. By "over-size" you mean more than 70 cars?

A. More than 70 cars.

Q. For the purpose of the redispatching study covered by item No. 5 of exhibit No. 196, did you contemplate the same siding facilities as existed during that period?

A. Yes.

Q. Are they the same or substantially the same siding [fol. 2817] facilities that exist today?

A. That is right.

Q. Did you contemplate the use of the same locomotives or the same class of locomotives?

A. That is right.

Q. Are they the same locomotives which were in service following April 30 and likewise today?

A. Yes, sir.

Q. Did you yourself make all of the entries on the re-dispatched train sheets for the purposes of the redispatching study, item No. 5, of exhibit No. 196?

A. I did not.

Q. Were some of those entries made by some other person?

A. Yes, sir.

Q. By whom?

A. By a trick dispatcher that I had with me.

Q. Was this trick dispatcher working under your supervision?

A. He was.

Q. What, if any, check of the entries made by the trick dispatcher did you yourself make?

A. They were all checked.

Q. Was the trick dispatcher's work done under your supervision?

[fol. 2818] A. Yes, sir.

Q. What was the character of the entries made by the trick dispatcher?

A. The time at way stations or intermediate stations between terminals; the arriving time at the district terminal; the transcript of the conductor's delay report of the actual train as compared with the re-dispatched train; the additions or subtractions from this delay report as the case might be.

Q. Did you yourself make the entries as to departure times from originating terminal?

A. In most all instances I made them myself or instructed as to the time they should set to depart.

Q. Did you yourself determine the consist of the re-dispatched trains?

A. I did.

Q. You have heard the testimony of Mr. Baker and Mr. Sines as to the variations in train speed over the road assigned the re-dispatched trains as compared with actual trains on account of the ratio of the loading to the tonnage rating of the locomotive handling the train?

A. Yes, sir.



Q. Did you follow the same principles as described by [fol. 2819] them in assigning the train speed to the redispatched trains?

A. I did.

Q. Mr. Cassady, with respect to the matter of tonnage rating in general, is that a matter with which the dispatchers and chief dispatcher is familiar?

A. Absolutely.

Q. Is that necessary to his job?

A. Absolutely, yes, sir.

Q. Tonnage rating of a locomotive over a particular district is an expression of just what feature? I want you to describe it in terms which I as a layman and Mr. Strouss as a layman may understand easily.

A. It is the amount of tonnage that a locomotive can pull over any given section of the road.

Q. Of the particular stretch of road to which the rating relates?

A. That is right.

Q. The same locomotive, then, or the same type may have a different rating westward from Tucson to Gila than it has eastward from Tucson to Lordsburg, is that correct?

A. That is right.

Q. What causes that difference in the rating of the same [fol. 2820] locomotive?

A. A difference in the grade.

Q. Then I take it that the rating varies according to the physical characteristics of the district over which the locomotive is to run even though the tractive effort of the locomotive is constant, is that correct?

A. That is correct.

Q. Is the rating of a locomotive over a particular district determined by computation or by experiment and experience?

A. It is determined by a mechanically operated device used for test purposes with one particular type of locomotive.

Q. Is each type rated by the use of this test?

A. That is right.

Q. You say a mechanically operated testing machine. What is the name of that device?

A. I wish you hadn't asked me that because I can't remember the name of it now.

Q. May I suggest the dynamometer car?

A. That is right.

The Court: In other words, after a locomotive has been tested by this dynamometer car, you know what it would do, you don't have to hitch it to a train and run it over [fol. 2821] a given stretch of territory to see whether it would pull the load?

A. No.

Q. You know exactly what it will do?

A. That is right.

Mr. Mason:

Q. Is the tonnage rating virtually the maximum hauling capacity of the locomotive over the particular district?

A. No, it is the standard.

Q. Standard of its hauling capacity?

A. Yes, there is some tolerance in the load. The locomotives will handle in excess of the rating as shown in our working timetables, but we fix the rating for a locomotive so that it will be able to handle a train at fair speed.

Q. Referring to item No. 6, the freight redispaching study for April 4th April 30th, 1940, all as indicated in more detail on defendant's exhibit No. 196, will you say whether or not you made or supervised that study insofar as the Tucson division was concerned?

A. I did.

Q. Was that conducted by you in the same manner as the other redispaching study?

A. It was.

Q. Did you also in that case make out redispached train sheets?

[fol. 2822] A. Yes, sir, we did.

Q. Who made the entries upon the redispached train sheets?

A. The trick dispatchers assisting me and myself.

Q. Did you supervise the entries made by the trick dispatchers?

A. I did.

Q. Did you check the entries made by them as to their propriety and correctness?

A. I did.

Q. As to the entries on the redispached train sheets made by these trick dispatchers as to items Nos. 5 and 6, will you say whether or not you vouch for them?

A. I do.

Q. Were the same principles of dispatching and operating trains from the standpoint of the dispatcher observed in these redispatching studies which you made or supervised as observed in the actual conduct of the railroad?

A. Yes, sir, just the same.

The Court: We will take our mid-morning recess at this time.

(Thereupon a short recess was taken, after which proceedings were resumed as follows.)

[fol. 2823] The Court: You may proceed.

Mr. Mason: Mr. Cassady, in the redispatching studies which you conducted, particularly the freight redispatching studies, did you undertake to match up your redispatched trains with trains as actually run?

A. Yes.

Q. You state on the redispatching study corresponding to Item 5 you ran additional trains?

A. That is correct.

Q. Were they matched up with any actual trains?

A. No, they couldn't be.

Q. Did you work out or check the work at the points at which meets and passes would take place for the redispatched trains?

A. No.

Q. Who prepared that work?

A. Dispatchers.

Q. The trick dispatchers?

A. The trick dispatchers, yes, sir.

Q. Did you check their work after it had been entered on a redispatch train sheet?

A. Yes, sir.

Q. Will you say whether or not their working out of meets and passes and other items of the run correspond to your own judgment as proper or not?

[fol. 2824]. A. They did.

Q. In the actual operation between April 4th and April 30th, 1940, Mr. Cassady, generally speaking, what particular description of trains were run in units of more than 70 cars?

A. Drags.

Q. Did you run any of your manifest trains with more than 70 cars?

A. A few.

Q. Did you undertake to run trains of more than 70 cars in both directions during that period?

A. We did.

Q. At the same times and on the same days?

A. Well, perhaps approaching the end of the district, as Mescal to Tucson, you will find trains of more than 70 cars in each direction, and there are a few cases where we operated trains of more than 70 cars in each direction between Tucson and Gila, taking advantage of a few long sidings that we did have.

Q. Generally speaking, you operated the long trains in one direction or the other on the same district on the same day?

A. That is correct.

Q. But not in both directions. What train length did you observe as to trains moving against the long-train [fol. 2825] direction, if I may call it that?

A. In our term, we call them siding clearance trains.

Q. By siding clearance trains, what do you mean?

A. We mean perhaps sixty-five to sixty-seven cars, depending upon the length of the cars involved in the train.

Q. By "siding clearance" you mean trains that could get into almost any of the sidings in order to make a meet; is that correct?

A. That is correct.

Q. I may not have mentioned, but did you participate in the passenger redispaching studies of 1938, that is, the redispaching study and the analysis mentioned as Items 2 and 3 of Exhibit 196?

A. I did.

Q. And in the passenger redispaching study, did you follow the same principles which have been stated here and which you have stated that you observed as to items 4, 5 and 6?

A. Yes, sir, that is correct.

Q. Did you assume or contemplate the use of any different type of locomotives for the operation of passenger trains?

[fol. 2826] A. No, sir.

Q. Have you reviewed and checked the showing which is now in evidence as Mr. Sines' exhibit No. 195?

A. Yes, sir.

Q. And in so far as that exhibit relates to the Tucson division, will you say whether or not it expresses your own conclusion predicated on your experience?

A. Yes, sir, it does.

Q. I take it that you are familiar with the ratings of the types of locomotives now in use on the Tucson division in freight service. Are you also familiar with the rating of the AC-8 class of locomotives over the Tucson division?

A. Yes.

Q. Generally speaking, how does the rating of the AC-8 class locomotive compare with the rating of the F-4 class, expressed in percentage relationship?

A. About 165 per cent, I guess, something like that.

Q. And, generally speaking, how does the rating of the AC-8 locomotive compare with the rating of the 5000 class S. P. type locomotive?

A. I have never worked that out, I don't know just [fol. 2827] exactly what it would be. About—I have worked it out some place, I don't remember where we worked it out.

(The witness made some calculations off the record, during which he mentioned some figures which were inaudible to the reporter.)

Mr. Mason: You speak of the approximate rating of the S. P. as 4350?

A. Yes, from Tucson to Dragon.

Q. And you spoke of the AC-8 locomotive class as approximately 6200, didn't you?

A. That is right.

Q. Then the percentage relationship can be figured from those two figures?

A. Yes, that is right.

Q. Now, will you say whether or not the redispersing studies which you have supervised and in which you have participated as described by you, represent to the best of your judgment the manner in which trains and traffic would have been operated and handled and could have been so operated and handled at the times covered by such studies and under the conditions contemplated by the several redispersing studies?



A. Absolutely, yes, sir.

Q. Mr. Cassady, when you had completed, or, rather, [fol. 2828] when the redispatch train sheets for the various redispatching studies had been completed with all of the entries thereon; did you turn those redispatch train sheets over to anybody?

A. Yes.

Q. To whom did you hand them?

A. Handed them over to Mr. B. S. Sines.

Q. In connection with the passenger redispatching study, Item 2, did you make redispatch train sheets there, or just work sheets?

A. Just used work sheets.

Q. Did you turn those work sheets over to Mr. Sines?

A. Yes, sir.

Mr. Mason: Your Honor, I would like at this time to tender to Mr. Strouss the actual and redispatch train sheets covering the redispatching studies for 1940 for the Tucson and Rio Grande Divisions. Unfortunately, we are still making some use of those and they won't be available until Monday. I want the record to show that they are available, and we will tender them just as soon as possible.

Mr. Strouss: The record may show that you have tendered them and then when I get to where I can use them I will advise Mr. Sines and take them. Some of the records [fol. 2829] that were tendered to me yesterday are left with Mr. Sines because I couldn't use them all at once. I will indicate when I am ready to use them.

Mr. Mason: It perhaps would be better that the record do show that we do tender them and Mr. Strouss may have them when he wishes, with that reservation as to next Monday.

Q. Mr. Cassady, have you seen Mr. Sines' exhibit No. 197, which is the outline map of the divisions with the siding extensions indicated?

A. Yes, sir, I have.

Q. Have you reviewed that exhibit?

A. Yes, sir.

Q. Did you participate in the conferences at which these siding extensions were determined?

A. Not in San Francisco, no, or Los Angeles.

Q. Have you reviewed the exhibit since or reviewed the determination since it was made?

A. I have.

Q. Now, will you say, basing your answer upon your own experience and familiarity with the division and your qualifications as dispatcher and chief dispatcher, whether or not the showing of siding extensions on Exhibit No. 197 in so far as that exhibit relates to the Tucson division, [fol. 2830] reasonably expresses the sidings and siding extensions which would be necessary for the operation of trains according to the plan contemplated for the 1938 redispatching study?

A. It does.

Q. And whether or not the same would be true as to the plan contemplated for the 1940 redispatching study, in which the use of the AC-8 type of locomotive and the operation of trains corresponding to that locomotive was contemplated?

A. Yes, sir, it does.

Mr. Mason: I think that is all we have of Mr. Cassidy at this time.

Mr. Strouss: I will reserve my cross-examination.

The Court: You may step aside. Call your next witness.

Mr. Mason: We will recall Mr. Herbert.

W. P. HERBERT was recalled to the stand and testified further as follows:

Direct examination (continued).

By Mr. Mason:

Q. Mr. Herbert, have you before you a statement in one sheet entitled "Southern Pacific Company Grade Cross [fol. 2831] ings Within the State of Arizona as Reported to Corporation Commission of the State of Arizona, Year Ended December 31, 1939. By Southern Pacific Company," and so forth?

A. Of the State of Arizona, yes, sir.

Mr. Mason: May we have this statement marked for identification No. 200?

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 200 for identification.

Mr. Mason: Did you prepare Exhibit No. 200 for identification, Mr. Herbert?

A. Yes, I did.

Q. And from what sources?

A. From the annual reports for the various years shown as reported to the State of Arizona by the Southern Pacific Company.

Q. Are the classifications of the crossings, as shown in lines 1 to 10, shown on the report?

A. Yes, they are exactly as shown on the report.

Q. Do you have the reports made to the Corporation Commission from which the exhibit was prepared?

A. Yes, we do.

Q. Now, as to the detail of the exhibit in columns D and E, are those the details as to numbers added and numbers [fol. 2832] eliminated shown in the annual report?

A. Yes, they are.

Q. Will you say whether or not the exhibit is true and correct?

A. Yes, I checked it myself and made it myself.

Q. And is the total in line 11 a reported total or computed total?

A. It is a summation of those shown above, and is also shown in each report.

Mr. Mason: Have you any questions, Mr. Strouss?

Mr. Strouss: As I understand it, this is the resume of the report to the Corporation Commission as to grade crossings?

A. Yes, it is a resume and is practically a copy, or is a copy of the method and manner in which it is reported to the Commission.

Mr. Mason: Does this include grade crossings on branch lines as well as on main lines?

A. Yes.

Q. Does it include crossings over spurs or industrial tracks as well as those over main track?

A. Yes.

The Court: Just what do you mean by "grade crossing," Mr. Herbert?

A. A grade crossing, Your Honor, is a road or high [fol. 2833] way that crosses the railroad tracks at grade

or, in other words, along the same level as the level of the rails.

Q. There has to be a road, otherwise you would not classify it as a grade crossing?

A. That is right; it is a road or highway over which vehicular traffic might cross.

Q. That might be a private way into some man's ranch?

A. No, this is just public crossings, public grade crossings. Private crossings are usually covered by a separate agreement with the farmer on either side of the railroad. However, I might check into that. My understanding is that this is just public crossings.

Mr. Mason: These are the crossings as reported to the Commission?

A. Yes, as reported.

Mr. Strouss: When you speak of spur tracks, do you mean switches to industrial plants?

A. Occasionally there will be found a grade crossing over a spur track.

Q. Suppose you have a road that crosses a number of railroad tracks, that would only be considered as one crossing?

A. Yes, that is right.

[fol. 2834] The Court: How about driveways? I don't know the situation on the Southern Pacific, but I know on the Santa Fe that periodically they make provision for the crossing of livestock, possibly not a road there. Would that be counted as a grade crossing, or do you have any such?

A. Well, I believe that comes under the heading of private crossings in most instances in out-of-the-way places where we permit private crossings to be constructed by agreement with the cattle owners or property owners on either side of the railroad track or right-of-way fence. In those cases, they usually have gates which have a sign on them which prohibits public use of those gates without proper authority.

Q. Your right-of-way is fenced the entire distance?

A. No, not the entire distance. There are spaces where there are no fences.

Mr. Strouss: This report to the Corporation Commission doesn't segregate in any place these crossings so far

as congested districts and uncongested districts are concerned, that is, their location; they may be in a congested community like the Salt River Valley?

A. No, it does not.

[fol. 2835] Q. Of course, when you say that it covers branch lines, it covers grade crossings within cities and just communities of that sort?

A. Yes.

Mr. Mason: We offer the exhibit in evidence as Defendant's Exhibit No. 200.

Mr. Strauss: No objection.

The Court: It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit No. 200.")

Mr. Mason: Have you before you, Mr. Herbert, a statement in one sheet entitled "Grade Crossings Within the State of Nevada as Reported to the Public Service Commission of the State of Nevada, Year Ended December 31, 1939," and so forth?

A. Yes, I have.

Mr. Mason: May we have this statement marked as defendant's Exhibit No. 201 for identification?

The Court: It may be marked.

The Clerk: Defendant's Exhibit No. 201 for identification.

Mr. Mason: Did you prepare Exhibit No. 201 for identification, Mr. Herbert?

A. Yes, I did.

Q. And from what sources?

A. From the annual reports, for the various years shown [fol. 2836] and reported to the Public Service Commission of the State of Nevada by the Southern Pacific Company.

Q. Does this exhibit cover the same character of grade crossings and by similar segregations as shown on Exhibit No. 200?

A. Yes, it does.

Q. And, I take it, was prepared from a corresponding series of reports?

A. That is right.

Q. Are these figures taken directly from the reports themselves?



A. Yes, they are.

Q. Has it been checked against the reports?

A. Yes, it has.

Q. Does this include branch line or spur track crossings as well as main line crossings?

A. Yes.

Q. I take it that it includes only those crossings where the road or highway and the railroad track are on the same level?

A. That is right.

Q. Has the exhibit been checked to determine its correctness?

A. Yes, it has.

Q. Will you say whether or not it is a true and correct [fol. 2837] reflection of the underlying reports?

A. Yes, I believe it to be.

Q. Are the reports available?

A. Yes, they are.

Q. In the city?

A. Yes.

Mr. Mason: Have you any questions, Mr. Strouss?

Mr. Strouss: No questions.

Mr. Mason: We offer Exhibit No. 201 for identification as defendant's exhibit with that number.

Mr. Strouss: Objected to as irrelevant and immaterial.

The Court: The objection is overruled. It may be admitted.

(The document referred to was received in evidence and marked "Defendant's Exhibit 201.")

The Court: Refer to your Arizona exhibit for a moment. Where is it that you maintain the watchman on duty alone?

A. I believe at the crossing at Benson, but I am not certain as to that.

Q. I believe you stated that you didn't know how many of these crossings were on main line and how many on branch lines?

A. No, I don't have any such segregation shown.

[fol. 2838] Q. Do you recall the mileage—it is in evidence here somewhere—of the Southern Pacific Lines in the state of Arizona?

A. No, I don't recall that.

[fol. 2839] Mr. Mason: Exhibit No. 115 shows the operated steam mileage by states, your Honor.

The Court: All right, thank you.

Mr. Mason: And shows the total of all tracks including sidings, the Nevada total of all tracks including sidings and including the Western Pacific mileage of 177 miles over which we operate is 1231.43, column 10 of that exhibit. The Arizona grand total, all tracks including sidings, is 1702.49.

The Court: That would make a grade crossing every three miles, on the average. I was somewhat astounded as to the number of them.

Mr. Mason:

Q. Mr. Herbert, have you before you an exhibit in one sheet entitled, "Yuma, Arizona, to El Paso, Texas, Increased Investment in Siding Extensions Incident to Long Train Operation"?

A. Yes, I have.

Q. Did you prepare this statement?

A. Yes, I did.

Mr. Mason: May we have this marked No. 202 for identification?

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 202 for identification.

[fol. 2840] Mr. Mason:

Q. Mr. Herbert, does this exhibit correspond to any exhibit previously offered and received of record here?

A. Yes, it does.

Q. Will you refer to that exhibit, please?

A. It corresponds to exhibit No. 197.

Q. Having exhibit No. 197 in mind, what steps have you gone through in preparing exhibit No. 202 for identification?

A. It was decided as testified by Mr. Sines and I believe the various dispatchers that certain sidings would necessarily have to be extended in order to comply with the program set out to make the redispach. I set out to make the estimated amount of money required to extend those sidings.

Q. Have you shown here as items 1 to 48 and item 50 the stations in column B at which siding extensions are contemplated as indicated by exhibit No. 197?

A. Yes.

Q. And column C the milepost locations?

A. Yes, sir.

Q. What does column D indicate?

A. That indicates the present length expressed in feet.

Q. What does column E represent?

[fol. 2841] A. The present length expressed in car lengths.

Q. Is column E based upon any computation with respect to column D?

A. It is. It is an average of 46 feet per car. However, it is the exact figure as shown in the current timetable prevailing in 1938.

Q. Is column D based upon measurements or records in any particular office?

A. Yes.

Q. Where and what records?

A. They are based upon records in the chief engineer's office and also records in the division office here at Tucson.

Q. I notice here, for example, you show at Fortuna a siding length and a corresponding length in cars. At Gael you show the siding length in feet as the same figure but the length in cars is shown as one car more?

A. Yes. However, that is due to the fact that the timetable had it that way and I show column E exactly the way the current timetable had it set up.

Q. Does the same explanation that you have just made as to the apparent disparity between lines 2 and 4 apply to any other cases where a similar or corresponding disparity appears?

[fol. 2842] A. Yes, I believe it will.

Q. For example, I notice in line 13 the siding of 3,946 feet is shown as having 77 cars while in the next line one only 30 feet shorter is shown as having four cars less capacity?

A. That is right.

Q. That disparity or inconsistency is between the actual record of length and the timetable showing?

A. Yes, sir.

Q. Between what points is the length in feet computed as shown in column D? Is that from switch point to switch point?

A. Yes, sir.

Q. The siding capacity in cars, does that depend upon any other features of the siding itself other than its length, switch point to switch point?

A. Yes, it does.

Q. What other feature, for example?

A. It depends upon the length in the clear. Many times although a siding might be 3,800 feet, for instance, there might be a spur or a derail at one end or the other of that siding that might impair its clearance and that derail is not always the same distance from the point of switch, thereby [fol. 2843] causing in one instance more cars for the same length of siding than another.

Q. Now as to proposed length in column F. How is that figured?

A. The length in column F is the proposed length expressed in feet for the various proposed lengths. In order to explain that I will be a little historical, maybe. It was decided by the chief engineer's office that in order to make a 70-car capacity siding it should be four thousand feet in length from switch point to switch point. That involves the following computation, 70 cars at 46 feet will equal 3,220 feet. Two hundred twenty-five feet was then provided at each end for clearance, making a total of 450 feet. An engine length and a caboose, taking an engine in this case of 126 feet, will be 166 feet. Then providing for an operating stop of 164 feet will total 4,000 feet.

Q. How do you get the additional length for 125-car sidings?

A. For all additional cars added thereto over the 4,000 feet an average length of 46 feet per car was provided. Therefore, taking the siding length of 6,530 feet as shown at Yuma or Fortuna, taking the 70 cars at 4,000 feet, add 55 [fol. 2844] cars at 46 feet per car, or 2,530 feet, will give you the 125 cars or the 6,530 feet.

Q. With the provision for the locomotive and caboose?

A. Yes.

Q. And the clearance?

A. And the clearance.

Q. And the operating stop that you mentioned?

A. Yes, sir. The same thing applies to the 100-car sidings except for the additional 55 cars you only have an additional 30 cars.

Q. Having obtained column F and column G in this manner, how did you obtain the figures in column H. For example, in line 2 you show a figure in column H in feet, what does that represent?

A. By subtracting the present length from the proposed length gives the length of the extension in feet.

Q. Did you make any personal inspection of the places at which the siding extensions were contemplated for the purpose of the redispatching study?

A. Yes, I did.

Q. What was the nature of your inspection.

A. In addition to my intimate knowledge of the territory involved, having worked, you might say, on the track for [fol. 2845] some fifteen or sixteen years in this territory, I made a special trip by track motor car or inspection car for the sole purpose of making this estimate.

Q. Did you stop at each of these sidings to determine whether an extension was practicable or not?

A. Yes, I did.

Q. You show in column I under the heading, "Length of Extension," the words "East or West." What does "East or West" as it appears in column I signify?

A. That signifies which direction the siding would be extended. I determined that on the ground from my own judgment as to whether the siding should be extended eastward or westward.

Q. What factors did you take into consideration in determining which direction the extension should be made?

A. There are many factors involved there, mostly those of practicability and economy. You take into consideration your grading, whether or not the switch points as proposed would be located on a curve or on a straight track, bridges and other obstacles that might be in the way in one direction or the other.

[fol. 2846] Q. If, for example, there were a rather high fill at one end of the siding and comparatively little fill at the other end, which direction would the extension be made?



A. I would take the end that involved the least cost and was the most practical. I would take the end that had the least fill.

Q. Suppose there were a wash or creek or arroyo at one end and no such natural feature at the other, which would you select?

A. I would take the one at the end that did not have that natural barrier.

The Court: Are any of these sidings shown on this exhibit No. 202 on which you propose to increase the length of the siding located on the Wellton-Phoenix route?

A. Not on the Wellton-Phoenix route.

Q. On the southern route east of here via Douglas?

A. Before I go to that, I thought you meant only the district between Wellton and Phoenix. On that route there is one called Topaz. As to the south line, there are none but there is on the double track which is on the former E. P. & S. W. line at Yail, which is on the westward main track.

Mr. Mason:

[fol. 2847] Q. Are these the same stations which are identified on exhibit No. 197 and no others?

A. That is right, the same ones.

Q. What type of rail did you contemplate for use in these siding extensions?

A. Second-hand ninety pound.

Q. You show in column II, "Miscellaneous Moving Pole and Pipe Lines and Other Structures." What does that signify?

A. That signifies the amount of money necessary for those items at the various locations shown.

Q. What moving of poles and pipe lines did you have in mind? Will you give me an example?

A. There are instances in extending tracks or moving switches where our telephone and telegraph poles or signal poles might be in the way and other pipe lines in towns or villages that might have to be moved in order to extend the side track and it also includes road crossings that might have to be crossed by the side track as well as the main track in its extended form.

Q. What does the item of "Grading" cover?

A. It covers all the grading necessary to extend the side track.

Q. Does that include whatever ballast might be necessary to replace?

[fol. 2848] A. No, it does not. Ballast is included in item J.

Q. Did you make any survey to determine the quantities of material that would have to be moved for the purpose of grading?

A. Yes, on the trip I just mentioned I made an on-the-ground survey at each place to determine the amount of grading and its cost per yard.

Q. How long did you take to make the inspection trip you have referred to?

A. It took about two weeks or over.

Q. As to track, how did you arrive at the figures in column J?

A. We have in the railroad a unit cost for track, that is bare track, including ballast, which I obtained from the chief engineer's office and which is in use in this territory and which I know to be correct and conforms to good engineering practices.

Q. Does it conform to your own experience?

A. Yes, it does.

Q. Is this the multiplication of the extension in feet by the unit cost per foot or per yard of track?

A. As far as the track, column J, that is correct.

[fol. 2849] Q. The column headed "Bridges," was it necessary to relocate, strengthen, or widen bridges for the purpose of these extensions?

A. It was necessary to widen certain bridges over which the side track would have to pass if extended.

Q. What as to the item of "Signals," how did you arrive at that and what does that represent?

A. Moving the location of a main line switch, which in each case would be involved here, it is also necessary to make certain adjustments in signals. Each switch is tied into the signal block layout.

Q. How do you obtain the cost figures for the movement of signals?

A. I worked in collaboration with the signal engineers of the company going over each item in detail and those were the figures that conformed to the latest estimates as to the moves that had to be made in each case.

Q: Are those based upon experience in the movement or removal or replacement of signal installation at sidings in this territory?

A. Yes, sir, they are.

Q. Based upon actual figures of record?

A. Yes, sir.

[fol. 2850] Q: Did you use work sheets in preparing exhibit No. 202 for identification?

A. Yes, I have work sheets.

Q. Which cover the details of each of these items?

A. Yes, they do.

Q. I take it that the total cost in column M is the summation of the costs which appear in the previous columns H to L, inclusive?

A. That is right.

The Court: How does it happen there is such a variance in the cost of track per foot ranging in line 24 at Vail of \$3.22 to \$10.21 at Raso, line 33?

A. That is due, as you will note, at Raso you have an extra heavy bridge expense, where at Vail you have only twenty dollars, at Raso you have \$4,400. Going to the next item in column I, signals, at Vail the expenditure for signals was only forty dollars, whereas at Raso an expenditure of \$3,400 was necessary and so on through the general cost items.

Mr. Mason:

Q. At Vail I take it you made the extension away from the existing signal mast at the opposite end of the siding?

A. Yes, there was no signal mast at the switch that I [fol. 2851] chose to extend at that point.

Q. Is that because that track is used in one direction only?

A. Yes.

Q. And the track at Raso is used for both east and west-bound, is it?

A. Yes, sir.

Q. I take it that the figures in column N are obtained by division. Will you state what items are used in that division?

A. They are the cost per track foot. It is the track feet of the extension, which would be column H, dividing the cost, the total cost into column M.

Q. It would be column M, dollars, divided by column H, feet?

A. Yes, sir.

The Court: We will take our noon recess at this time until two P. M.

(Thereupon the court stood at recess until two o'clock P. M. this day, January 23, 1941.)

[fol. 2852] January 23, 1941, two o'clock P. M.

Proceedings were resumed at this time as follows:

The Court: Gentlemen, before we commence, time drags heavy on my hands at times. I wonder if you would have any objection if the Court saw fit to personally visit the dispatcher's office in Tucson just to see at first hand how it operates?

Mr. Strouss: No, we haven't.

Mr. Booth: We certainly have not.

The Court: I am sure the dispatcher here would be willing to show me the office.

Mr. Strouss: It would be perfectly all right with us.

The witness, W. P. HERBERT, was recalled to the stand and testified further as follows:

Mr. Mason: Taking up Exhibit No. 202 for identification again, Mr. Herbert, I take it that line 51 showing the totals are simply a summation of the total in line 49 plus what you show for the Phoenix Line to Topaz?

A. That is right.

Q. And the total in line 49 is simply a summation of the items appearing above?

[fol. 2853] A. Yes, sir.

Q. Now, you show in line 52 an item for contingencies with the factor "plus ten per cent" mentioned; the ten per cent is applied to what figure?

A. It is applied to the total in line 51, column M.

Q. Why do you add that allowance? Is that an actual expense?

A. No, that is a percentage that is usually, in fact, invariably added to estimates of this nature.

Q. In your experience as assistant engineer on the Tucson division, have you calculated the cost of projected changes or improvements?

A. Yes.

Q. Frequently?

A. Yes, quite frequently.

Q. Was that part of your duties as assistant engineer?

A. Yes.

Q. And have you in the calculations represented by Exhibit No. 202 followed the same methods and practices?

A. Just about the same, yes.

Q. Including the inspection on the ground?

[fol. 2854] A. Yes.

Q. Now, does this item in line 52, is that one which you added in making your other estimates or plans?

A. Yes, the same percentage figure is always added, ten per cent for contingencies.

Q. Now, did you yourself make the selection of the points at which the siding extensions were to be constructed or were those the points given to you by Mr. Sines or others?

A. They were agreed upon by Mr. Sines and the dispatchers and given to me.

Q. Mr. Herbert, are the costs represented on Exhibit No. 202 the costs as of 1938, or as of 1940, or 1941?

A. They represent the cost as reflected by prices prevailing in 1939.

Q. Do you know and, if so, will you state whether there has been any substantial or material variation as between 1938, 1939, and 1940, in so far as these particular items are concerned?

A. There isn't any substantial variation.

Mr. Mason: Have you any questions, Mr. Strauss?

Mr. Strauss: Yes.

Q. You say that this inspection was done as you ordinarily do in your practice of estimating for the improvement [fol. 2855] ments on the road?

A. Yes.

Q. Do you ordinarily inspect 125,000 feet of extension in locating 50 different points in two weeks?

A. No, if we were going to do it in two weeks we would make the inspection, yes.

Q. And get all the data that is necessary for an estimate?

A. Yes, sir.

Q. Now, these costs per track foot, what did you say that represents?



A. That is just a calculation made on the face of this exhibit, showing the amount of money shown in column M, which is the total cost divided by the proposed extension.

The Court: Column H.

A. Column H.

Mr. Strouss: It is not the unit then that is used to arrive at the cost?

A. No, no, these units were developed here from the cost figures and just shown on there as a matter of information.

Q. I understood you to say that the reason that this unit of \$10.21 is so high is because of the bridge and signal cost there?

[fol. 2856] A. Yes, as compared with the smaller cost at Vail, which the Court asked about.

Q. I notice at Lordsburg yard, the cost per track foot is \$5.05 with practically the same bridge and signal cost at Raso.

A. Yes, but the track footage of extension is a whole lot greater, therefore making a smaller average per foot.

Q. These costs were based upon labor, material, and everything that enters into it as of 1939 cost?

A. Yes, sir.

Mr. Mason: We offer the exhibit in evidence as defendant's exhibit No. 202.

Mr. Strouss: It is objected to as an opinion and conclusion of the witness.

The Court: The objection is overruled. It may be admitted.

(Thereupon the document referred to was received in evidence and marked, Defendant's Exhibit No. 202.)

Mr. Mason: For the sake of convenience, if your Honor please, I should like to withdraw Mr. Herbert at the present time in order to present another witness from out of the city.

The Court: There is another question the Court would like to ask of Mr. Herbert.

[fol. 2857] Mr. Mason: Yes.

The Court: Refer back a moment to exhibit No. 200, Mr. Herbert. I notice that in the ten-year period shown on the exhibit covering the years 1930 to 1939, there has been a

reduction in the number of grade crossings to the extent of 82, that being the difference between 654, the figure shown in column F, and the corresponding figure shown in column O. Would we infer from that that by underpasses or overpasses 82 of these crossings have been taken care of, or have some of them been entirely eliminated?

A. Some have been influenced by the construction of grade separations which you refer to as overpasses or underpasses, and others have been just entirely eliminated, some through abandonment of branch lines, some others eliminated as unnecessary crossings. The railroad is always trying to get rid of unnecessary road crossings.

Q. Are you familiar with the lines in Nevada?

A. Not as much as I am in Arizona. I have been over them many times.

Q. Isn't it true that comparing Exhibit 200 with No. 201, that Arizona has proportionately altogether more grade crossings than does Nevada as based on the total mileage? [fol. 2858] A. Yes, I believe so. I haven't made that calculation, but I believe you are right.

Q. How would you account for that; does the fact that the territory through which you run in Arizona is more thickly populated, more towns than you find in corresponding territory in Nevada account for it?

A. I believe that is the principal cause, and more grade crossings per mile.

Q. Well, those crossings come as a result of need, do they not?

A. Yes.

Q. As a result of roads that may exist?

A. Yes.

The Court: I think that is all.

Mr. Mason: Mr. Herbert, does the relocation of roads have anything to do with the elimination of grade crossings?

A. Yes, the highway department in the state both in Nevada and also in Arizona have entered upon a campaign in recent years to eliminate unnecessary grade crossings, particularly on their main highways in the state. Not only do they eliminate them by grade separations but by highway line changes, and they have done considerable work in both states in that respect.

[fol. 2859]. The Court: Take Highway No. 80 that traverses northern Arizona here, how many times does that

main highway cross your main lines, where there is not either an underpass or overpass?

A. In the state of Arizona?

Q. Yes. Are there any such crossings?

A. I don't believe there are any such at this time on that particular highway where it is necessary to cross at grade.

Q. In other words, a tourist could go through the state of Arizona on that highway without crossing your road, the main line?

A. There might be some spur tracks that might still be at grade, but I believe the main tracks are all provided with grade separations at this time.

The Court: If there are no further questions, you may step aside. Call your next witness.

Mr. Mason: Before the witness is called, there is certain information from our profiles which we have worked up at Mr. Strouss' request, and I now furnish it to him, and I ask also, with the concurrence of Mr. Strouss, that this information may be copied into the record at this point. Will that be satisfactory to you, Mr. Strouss? This was worked up for you from the profile.

[Tel. 2866] Mr. Strouss: Yes, I didn't understand that this is the information that I was receiving. It is all right if you want to put it in, I have no objection to its going in.

Mr. Mason: Well suppose that we have it copied into the record at this point. You have no objection to its appearing as a truthful statement of record?

Mr. Strouss: No. I haven't examined it. I don't mean to say that I don't think it is a true statement.

Mr. Mason: Well, subject to any check you may have, then.

Mr. Strouss: My understanding from Mr. Sines was that he had some information already worked up, which he would let me have to see if it wouldn't answer the purpose I had in mind.

Mr. Mason: This is some of that information, and I think he has some more that he is preparing to work up, but he isn't certain of just what you want. Perhaps, if you will, advise him.

Mr. Strouss: Is this going in as part of Mr. Kirkbride's testimony? If you are putting this in as part of your evidence, I would want it connected with some witness so

when I come to cross-examine I would know what I am [fol. 2861] cross-examining about.

Mr. Mason: Well, we will furnish you the information then—well, I did want to have it a part of the record.

The Court: You might have it marked for identification, and have it introduced when Mr. Kirkbride returns.

Mr. Mason: No, it was prepared by Mr. Sines from the profiles in order to furnish the information for Mr. Strouss.

Mr. Strouss: Of course, that is not an accurate statement. It is not—I think Mr. Sines will agree with me that I was having some difficulty in getting the information I wanted off the profiles, and asked him to give it to me, and he told me he had some figures that would help me get the information I want; and would give that to me for my inspection to see whether it gave me the information I was trying to get off the profiles.

The Court: In other words, the information itself is already in the record by exhibit or otherwise?

Mr. Strouss: No.

Mr. Mason: No, I don't think it is. Suppose we reserve the offer for the record until you have had a chance to ex- [fol. 2862] amine it, then we may be able to stipulate to put it in.

[fol. 2863] Mr. Booth: Call Mr. Browning.

ARTHUR C. BROWNING was called as a witness in behalf of the defendant and being first duly sworn testified as follows:

Direct examination.

By Mr. Booth:

Q. Will you state your name and residence?

A. Arthur C. Browning, Chicago, Illinois.

Q. What position do you occupy with the mechanical division of the Association of American Railroads?

A. I am secretary.

Q. How long have you been secretary?

A. Since January 1, 1941.

Q. Previous to your appointment, what position did you occupy?

A. Assistant to the secretary.

Q. Since what date?

A. Since July, 1919.

Q. Beginning with 1932, did you have anything to do with the interchange rules of that division?

A. Yes, sir, I have edited the interchange rules since the starting of 1932 up to the present time.

[fol. 2864] The Court: What do you mean by "interchange rules," Mr. Browning?

Mr. Booth: We will introduce this in evidence, your Honor, in just a moment. You may answer the question.

A. The rules governing the interchange of cars between railroads.

Mr. Booth:

Q. Have you occupied any position during that ten years with the arbitration committee of the association?

A. Yes, sir, I have acted as secretary of the arbitration committee.

Q. What, briefly, is the arbitration committee?

A. The arbitration committee has jurisdiction over these rules, that is, they recommend any changes that they think are necessary in the rules from time to time as well as arbitrate disputes between the members in connection with the rules.

Q. To what body, if any, are those recommendations submitted?

A. The recommendations of the arbitration committee are submitted in annual reports to an annual meeting of the division and are acted upon at the annual meeting.

Q. And the division is composed of what members, generally?

[fol. 2865] A. Composed of railroad members of the United States, Canada, and Mexico.

Q. Did you act during that period as secretary of the committee on prices for labor and materials?

A. Yes, sir, I did.

Q. Has that committee any jurisdiction over recommendations for changes in the rules?

A. Yes, sir, particularly those rules dealing with the prices for labor and materials that are charged for repairs to cars.

Mr. Booth: I have handed the clerk a printed book consisting of 343 pages including the five-page index, the title



page of which reads, "Association of American Railroads, Code of Rules Governing the Condition of and Repairs to Freight and Passenger Cars for the Interchange of Traffic, Adopted by the Association of American Railroads, Operations and Maintenance Departments, Mechanical Division, Effective January 1, 1941, Revised 1940, Published by Association of American Railroads, 59 East Van Buren Street, Chicago, December, 1940." I ask that this be marked defendant's exhibit No. 203 for identification.

The Court: It may be marked.

The Clerk: Defendant's exhibit No. 203 for identification.

[fol. 2866] Mr. Booth:

Q. Mr. Browning, what is exhibit No. 203 for identification?

A. It is the current code of the book commonly known as the "A. A. R. interchange rules."

Q. Are those rules in whole or in part adopted or promulgated by the Interstate Commerce Commission?

A. No, sir, they are not.

Q. They are filed with the Commission as a matter of information, are they not?

A. Yes, copies are furnished to the Interstate Commerce Commission and also the Railway Commission of Canada as a matter of information.

Mr. Booth: I think that clears up the question that came up on the examination of Mr. Leriche earlier in the case.

The Court: There was an objection to certain of his testimony on the ground that the record was the best evidence as to these rules?

Mr. Booth: Yes; but also he was under the impression, though not a very strong impression, that these rules were adopted by the Interstate Commerce Commission and I said I would clear that up later.

The Court: I see.

Mr. Booth:

Q. Mr. Browning, will you state in general what this book [fol. 2867] of rules, exhibit No. 203 for identification, covers?

A. That is published in the rules themselves in the preface on page 10.

Q. Will you read that into the record?

A. (Reading) "Preface. These rules are formulated as a guide to the fair and proper adjustment of all questions arising between car owner and handling company with the intent of

1. Making car owners responsible for and therefore chargeable with the repairs to their cars necessitated by ordinary wear and tear in fair service; by the safety requirement and by the standards of the Association of American Railroads.

2. Placing responsibility with and providing a means of settlement for damage to any car, occurring through unfair usage or improper protection by the handling company.

3. Providing an equitable basis for charging such repairs and damages."

Q. What rule, if any, governs the obligation of a company to accept or its privilege of rejecting a car offered in interchange which does not conform to these rules?

A. Rules 2 and 3 are directly associated with that question. Rule 3 contains the requirements to which cars must [fol. 2868] conform to render them acceptable in interchange or from the car owner.

The Court: If a New York Central freight car, for instance, were being carried over the Southern Pacific Company lines and a wreck occurred damaging that car, upon whom would the loss for repairs fall?

A. It would probably fall upon the handling line. There are certain conditions—I don't know exactly what you mean by "wreck"—if there is a derailment, there is no question, it is the handling line. Rule 32 states the conditions which are considered unfair usage and which are the responsibility of the handling line.

Q. In his Honor's question the handling line would be the Southern Pacific Company?

A. Yes, sir.

Q. You stated that these recommendations are adopted or passed upon either favorably or unfavorably by the annual meeting following the submission of the recommendations, is that correct?

A. That is right, the report is presented and passed upon at the June annual meeting each year.

Q. Each year since 1911 at least has a book of rules similar to exhibit No. 203 for identification been issued and distributed by the association?

[fol. 2869] A. That is correct.

Q. Have you here in the courtroom each of those books from and including the year 1911 to an- including exhibit No. 203?

A. I have them in booklet form for all except one year and that year they were published in the proceedings for the year 1915.

Q. Have you at the Pioneer Hotel in this city a trunk containing the proceedings of the annual meetings at which these rules were adopted?

A. Yes, sir, the master car builders proceedings up to 1919 and then it was the American Railway Association.

Mr. Strouss: It was then changed to Association of American Railroads?

A. Yes.

Mr. Booth: We will make these books present in the courtroom available to counsel and inasmuch as the witness and counsel are stopping at the same hotel we will ask that they be made available to counsel at the hotel.

Mr. Strouss: I think we can arrange that.

Mr. Booth:

Q. Mr. Browning, have you prepared an exhibit showing the chronological history of certain rules relating to air brakes, axles, brake beams, brake beam hangers, couplers, draft gears, trucks, underframes, and wheels as they appear [fol. 2870] in the series of rule books from 1911 down to exhibit No. 203 for identification?

A. I have.

Mr. Booth: We have this in typewriting and I would like to file a copy of this exhibit as defendant's exhibit No. 204 for identification with the privilege, if it is admitted in evidence, of substituting a photostatic copy in more convenient form.

The Court: If it is admitted, the substitution may be made.

The Clerk: Defendant's exhibit No. 204 for identification.

Mr. Booth: I have purposefully refrained from offering this book of rules in evidence. I would like to have it remain with the clerk with the understanding that either side may either during its own case or at any other time copy and offer in evidence any rule from this exhibit No. 203 for identification. I would just as soon have the entire book go in evidence, but in order not to encumber the record—

Mr. Strouss: That is agreeable to me. I would have no objection to the introduction of the book itself in evidence and I agree with Mr. Booth that only those parts which [fol. 287.1] are pertinent or desired by either side should be part of the record as evidence.

The Court: The record may show the stipulation. The exhibit will be marked merely for identification, but either the plaintiff or defendant may extract therefrom any pertinent excerpts which they deem necessary to present their view of the case?

Mr. Booth: I assume it may also be done by reading a rule to a witness in the course of a witness' examination?

Mr. Strouss: Yes, that is agreeable.

Mr. Booth: Instead of introducing the rule as an exhibit?

The Court: Yes.

Mr. Booth:

Q. Taking up the first subdivision of exhibit No. 204 for identification, Mr. Browning, does this show that there was in the rule book of September 1, 1911, rule 53 relating to the character of air brakes which should be present on freight cars offered in interchange?

A. Yes, sir, it does.

Q. Then, does it show on that page and on the ten pages succeeding that page, that is, up to and including page 11, the successive changes in that rule relating to air brakes [fol. 287.2] until they culminated in the present rule which is in exhibit No. 203 for identification?

A. Yes, sir.

Q. Those changes year by year are shown, are they not, in the rule books which you have here in the courtroom as

well as in the proceedings of the association by which the rules were adopted?

A. They are shown in the book of rules which we have here. They are not all published in the proceedings. They were only published in the proceedings I believe up to 1917 and after that just the individual book was issued.

Q. By the way, how large a distribution has this book of rules?

A. At the present time we print close to sixty thousand copies and they are practically all distributed, all railroad companies in the United States, Canada, and Mexico, as well as private car lines, naturally have to have copies of them.

Q. Are all Class I railroads in the United States parties to these rules?

A. Parties to the freight car rules, yes, sir.

Q. Are all or practically all private freight car companies also parties to the rules?

A. That is correct.

[fol. 2873] Q. Is the list of subscribers to the freight car rules given, beginning at page 277 of exhibit No. 203 for identification?

A. Yes, sir, 277 to 305, inclusive.

Q. That includes the Southern Pacific Company and the Pacific Fruit Express Company?

A. Yes, sir.

Q. What classes of private car owners are listed; name some of the private car owners that are parties to these rules?

A. The Armour Car Lines, Union Tank Car Company, Pacific Fruit Express—

Q. (Interrupting) I don't mean by name but by character of car.

A. They are mostly tank cars or refrigerator cars or special cars of some different types, like some of these covered hoppers or poultry cars, but the majority of them are either tank cars or refrigerator cars.

Q. They are non-railroad-owned cars?

A. Yes, sir.

Q. Do they have cars to transport wine?

A. Yes, sir.

Q. Milk, vinegar, and molasses?

A. Yes.



Q. Turning to exhibit No. 204 for identification, to the [fol. 2874] subdivision thereof entitled "Axles," was there any rule prior to October 1, 1915, relating to the axle equipment of cars that would be acceptable in interchange?

A. No, sir, there was no rule as to the type of axles required on cars in interchange service prior to October 1, 1915.

Q. The rule then adopted is shown near the top of the first page of the section of this exhibit headed "Axles," is it?

A. That is correct.

Q. And the latest amendment to that rule was effective January 31, 1939, and is shown on the fourth page of that section, is that correct?

A. That is correct.

Q. Turning to the next section headed "Brake beams," was there any rule in interchange prior to October 1, 1914, relative to the class of brake beams on cars that would be accepted in interchange?

A. No, sir.

Q. Is the rule which was adopted on October 1, 1914, shown near the top of the first page of the section headed "Brake beams"?

A. That is correct.

Q. Is it correct that the rule as it exists today was adopted on August 1, 1937, and is shown on page 7 of that [fol. 2875] section—January 1, 1939, I should say, effective as of that date?

A. Yes, sir, that is correct.

Q. Between the original adoption of the rule and its amendment in 1939, there are a number of changes as shown in that section?

A. Yes, sir.

Q. Turning to the next section, "Brake beam hangers," was there any rule prior to January 1, 1930, relative to brake beam hangers and brake beam hanger pins?

A. There was no rule as to the type of brake beam hangers or pins required on cars in interchange.

Q. The rule was adopted for the first time effective January 1, 1930, was it?

A. That is correct.

Q. The latest rule as shown on page 2 of that section was adopted when?

A. January 1, 1938.

Q. Turning to the next section headed "Couplers," was there any interchange rule in effect from September 1, 1911, to October 1, 1914, with respect to the type of couplers required on cars in interchange?

A. No, sir.

[fol. 2876] Q. When was the coupler rule first adopted?

A. Adopted effective October 1, 1914.

Q. And shown in this section of the exhibit, is that correct?

A. That is right.

Q. And the latest rule on the subject is shown on page 7 of that section, is that correct?

A. That is correct.

Q. When was the latest rule on the subject of couplers adopted?

A. There was an extension of the effective date of August 1, 1940, paragraph C-11, extended to January 1, 1942, on August 1, 1940.

Q. So the rule as to couplers adopted August 1, 1938, and shown on page 6 of that section of the exhibit will be in effect a year from now, January 1, 1942, is that correct?

A. That is correct, yes, sir.

Q. And the rules preceding that are shown on this exhibit?

A. That is correct.

Q. Turning to the section of the exhibit headed "Draft gear," was there any interchange rule in effect prior to January 1, 1934, relative to draft gears?

A. There was no rule as to the type of draft gears required on cars in interchange prior to January 1, 1934.

Q. The rule effective January 1, 1934, is shown near the top of the first page of the section headed "Draft gears"?

A. Yes, sir.

Q. And the rule at present in effect was adopted when?

A. Effective August 1, 1937, was the last revision.

Q. That is shown on page 1 and the first three lines of page 2 of that section of the exhibit?

A. Yes, sir.

Q. Did the interchange rules in effect from September 1, 1911, to January 1, 1928, contain any provision with respect to the type of trucks required under cars in interchange?

A. No, sir.

Q. When was the rule first adopted with respect to trucks on such types of cars?

A. Effective January 1, 1928.

Q. Is that shown near the top of the section of this exhibit headed "Trucks"?

A. Yes, sir.

Q. When was the rule now in effect adopted with respect to trucks?

A. The last revision was effective January 1, 1941.

[fol. 2878] Q. And that is shown near the bottom of page 6 and the first four lines of page 7 of that section of the exhibit?

A. That is correct.

Q. Turning to the section of the exhibit headed "Underframes" was there any rule in effect with respect to underframe requirements on cars in interchange prior to January 1, 1927?

A. No, sir.

Q. Is the first rule effective January 1, 1927, shown near the top of the section headed "underframes" in this exhibit?

A. Yes, sir.

Q. Please refer to that section of the exhibit and state what the present rule, the rule now in effect is with reference to underframes?

A. The last modification was effective January 1, 1940, and after that there was an extension of effective date of the requirement in one paragraph to January 1, 1942. That extension was made on August 1, 1940.

Q. The last section of this exhibit is headed "wheels." Was there a provision in the interchange rules with respect to the types of wheels required on cars in interchange prior to January 1, 1925?

A. No, sir.

[fol. 2879] Q. And is the rule which was made effective January 1, 1925, shown in the upper half of the first page of the section of the exhibit headed "Wheels"?

A. Yes, sir.

Q. By the way, there is a peculiar section which I wish you would explain. It says, "A car will not be accepted in interchange if any of its wheels have the letter 'C' shipped out of the legend 'M. C. B.' or the letter 'R'".

chipped out of the legend 'A. R. A.' Why was it necessary to put in that rule?

A. And the present rule says, "A. R. A. or A. A. R.," which means the same thing. In the manufacture of wheels, they are not permitted to stamp the letters "M. C. B." or "A. R. A." or at present "A. A. R." on the wheel, unless it meets the specification of manufacture, but in casting them, those letters are cast on it, then in the inspection, if the inspector finds the wheel doesn't meet the specification, he chips the letter "C" out or the letter "R" out and that indicates to any railroad inspector that the wheel doesn't meet the A. A. R. specification.

Q. The M. C. B. stands for what?

A. That was the Master Car Builders Association.

[fol. 2880] Q. That was the predecessor of your present association?

A. Yes, that was the Master Car Builders. In 1919 it became the American Railways Association, A. R. A., which is now the American Association of Railroads, A. A. R.

Q. You say when the inspector finds it not up to standard. Who employs the inspectors?

A. The railroads or the purchaser of the wheel. It might be a private car line. There are various methods, some concerns hire inspectors of certain Bureaus to do this inspecting. They make a practice of visiting the foundries and inspecting the wheels, like the Hunt concern in Chicago is one of them, the Pittsburgh Casting Laboratory is another one that has inspectors for that purpose that are subject to hire by different railroads or private car owners purchasing wheels.

The Court: Mr. Browning, the exhibit 204, about which you have testified, has to do wholly with the rules governing freight cars?

A. That is right.

Q. Whereas, the exhibit 203, that covers both the freight and passenger cars?

A. Yes, sir.

Q. I take it, then, Mr. Browning, that it behooves the owner of any car, railroad car, that he expects to be put into general use in traffic, to have that car conform to these requirements, or else any connecting carrier might refuse to accept them?

A. That is correct.

Mr. Booth: Well, generally speaking, in what circumstances may a connecting carrier repair the car of another carrier?

A. Well, if there are any defects which require repairs as a result of damage or wear, or even unfair usage, in connection with the safety of the car or the safety of the lading to be loaded in the car he can make the repairs.

The Court: Is there any time limit, Mr. Browning, under these rules within which a car must be returned to the owner?

A. No, sir.

Q. In other words, for illustration, a car from the New York Central might leave those lines and not return to it for a year or two?

A. Yes, sir.

Q. Does that frequently happen?

A. Well, I don't think, not for that period of time, but it is not unusual for a year or two for a car to be away from home. Of course, it is earning per diem all that time.

Mr. Booth: The railroad that is using the car pays the railroad that owns the car a certain per diem for the use of the car?

A. That is right.

The Court: Any needed repairs that were due to wear and tear would be chargeable to the owner?

A. That is right.

Mr. Booth: That matter of car supply and the regulation of per diem charges and related matters is under the car service division of the Association of American Railroads, is it not?

A. The operating transportation division have authority over the per diem rules, and the car service division over the car supply.

Q. Something with which your division has nothing to do?

A. No, sir.

Mr. Booth: Any questions on Exhibit 204, Mr. Strauss?

Mr. Strauss: No, I have no questions.

Mr. Booth: We offer Exhibit No. 204 in evidence, Your Honor.



